Table of Contents

"The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration (FAA) as approved under the Airport and Airway Improvement Act of 1982. The contents of this System Plan reflect the views of the consultant, Wilbur Smith Associates, which is responsible for the fact and the accuracy of the data depicted herein, and do not necessarily reflect the official views or policy of the FAA. Acceptance of the report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein, nor does it indicate that the proposed development is environmentally acceptable in accordance with applicable public laws."

Chapter One: Study Purpose 1-1

PLAN OVERVIEW 1-1
STUDY PROCESS 1-2

Chapter Two: Inventory Purpose 2-1

DATA COLLECTION METHODS 2-1
EXISTING FACILITIES 2-2
APPROACH TYPES AND WEATHER REPORTING FACILITES 2-8
LIGHTING AND VISUAL AIDS 2-17
AIRPORT PLANNING DOCUMENTATION 2-24
AIRPORT ACTIVITY 2-26
SOCIOECONOMIC DATA 2-33
AIRSPACE 2-44

Chapter Three: Airport Role Analysis 3-1

AIRPORT ROLE CONSIDERATIONS 3-2
AIRPORT ROLE DEFINITIONS 3-11
FACILITY AND SERVICE OBJECTIVES 3-15
SUMMARY 3-18

Chapter Four: Forecasts 4-1

APPROACH TO FORECASTING 4-1
UTAH AVIATION TRENDS 4-1
NATIONAL TRENDS IMPACTING UTAH AVIATION 4-2
FORECAST OF COMMERCIAL ACTIVITY 4-3
GENERAL AVIATION FORECASTS 4-7
AIRFIELD CAPACITY 4-17
COMPARISON WITH FAA TERMINAL AREA FORECAST 4-21
SUMMARY 4-25

Chapter Five: Adequacy Analysis **5-1**

GOAL CATEGORY: ACTIVITY SERVED 5-1
GOAL CATEGORY: ECONOMIC SUPPORT 5-14
GOAL CATEGORY: FACILITIES AND ACCESSIBILITY 5-27
SUMMARY 5-44

Chapter Six: Future System Analysis **6-1**

OUTSIDE INFLUENCES 6-1
SYSTEM EVALUATION 6-10
SUMMARY 6-45

Chapter Seven: Financial and Implementation Plan **7-1**

DEVELOPMENT COSTS 7-1
POLICY ISSUES 7-10
FUNDING SOURCES 7-14
FUNDING NEEDS 7-17
ADDITIONAL RECOMMENDATIONS/CONTINUOUS PLANNING 7-17
SUMMARY 7-21

APPENDICES

A. Airport Pavement Management System Review
B. Land Use Compatibility
C. Current Facility and Service Objective Compliance
D. Individual Airport Data Sheets

LIST OF TABLES

Chapter Two: Inventory

Table 2-1 – Existing Facilities 2-4
Table 2-2 – Approach Types and Navigation Aids 2-11
Table 2-3 – Lighting and Visual Aids 2-18
Table 2-4 – Airport Master Plans and Airport Layouts 2-24
Table 2-5 – Annual Aircraft Operations 2-27
Table 2-6 – 2005 Based Aircraft 2-31
Table 2-7 – 2000 - 2005 Passenger Enplanements 2-33
Table 2-8 – Utah Multi-County Districts and Counties 2-33
Table 2-9 – MCD Population and Population Projections, 2000-2030 2-34
Table 2-10 – MCD Employment and Employment Projections, 2000-2030 2-38
Table 2-11 – MCD Per Capita Income and Projections, 2000-2030 2-41

Chapter Three: Airport Role Analysis

Table 3-1 – Initial Airport Role Summary 3-12
Table 3-2 – Aircraft Classification Standards 3-16
Table 3-3 – Facility and Service Objectives 3-17

Chapter Four: Forecasts

Table 4-1 – Passenger Enplanement Forecasts 4-4
Table 4-2 – Commercial Operation Forecasts 4-5
Table 4-3 – General Aviation Based Aircraft Forecasts 4-8
Table 4-4 – Top 10 Airports Ranked by 2006 Total General Aviation Operations 4-10
Table 4-5 – 2006 Local and Itinerant General Aviation Operations 4-10
Table 4-6 – General Aviation Operation Forecasts 4-12
Table 4-7 – Military Operation Forecasts 4-14
Table 4-8 – Air Cargo Forecasts 4-16
Table 4-9 – Total Operations Forecast / Current and Projected ASV and Capacity Utilization 4-19
Table 4-10 – Comparison of UCASP Forecasts with FAA TAF 4-22

Chapter Five: Adequacy Analysis

Table 5-1 – 2006 IFR Arrivals Originating Outside Utah 5-10
Table 5-2 – Utah Businesses Likely to Utilize Aviation Services 5-25
Table 5-3 – Approach Procedures at Utah Airports 5-28

Chapter Six: Future System Analysis

Table 6-1 – Airports in Counties with the Highest Projected Overall Population Growth 6-2
Table 6-2 – Airports in Counties with the Highest Projected Overall Employment Growth 6-2
Table 6-3 – 2006 IFR Flight Plans Filed to Airports with Visual Approaches 6-14
Table 6-4 – Airports Meeting Requirements to Support Emergency Medical Flights in Utah 6-15
Table 6-5 – Airports Meeting Requirements to Accommodate Business Jet Operations 6-20
Table 6-6 – Current and Future Airports Meeting Requirements to Accommodate Business Jet Operations 6-25
Table 6-7 – Future Instrument Support Analysis 6-28
Table 6-8 – Future ARC Objective 6-33
Table 6-9 – Future Runway Length Objective Analysis 6-34
Table 6-10 – Future Runway Width Objective Analysis 6-35
Table 6-11 – Future Runway Strength Objective Analysis 6-36
Table 6-12 – Future Taxiway Objective Analysis 6-37
Table 6-13 – Future Approach Objective Analysis 6-38
Table 6-14 – Future Airport Visual Aid Objective Analysis 6-40
Table 6-15 – Future Lighting Objective Analysis 6-41
Table 6-16 – Future Weather Reporting Objective Analysis 6-42
Table 6-17 – Future Landside Services Objective Analysis 6-43
Table 6-18 – Future Landside Facilities Objective Analysis 6-44

Chapter Seven: Financial and Implementation Plan

Table 7-1 – Total Development Costs by Airport Classification (In Millions) 7-2
Table 7-2 – Total Development Costs by Airport Specific Project Types 7-2
Table 7-3 – Total Development Costs by Airport Project Type and Airport Classification (In Millions) 7-3
Table 7-4 – Short-Term (2007-2012) Development Costs by Airport Project Type and Airport Classification 7-4
Table 7-5 – Mid-Term (2013-2017) Development Costs by Airport Project Type and Airport Classification 7-5
Table 7-6 – Long-Term (2018-2027) Development Costs by Airport Project Type and Airport Classification 7-6
Table 7-7 – Total Development Costs by Performance Measure and Airport Classification 7-7
Table 7-8 – UDOA Project Priority Rating System 7-13
Table 7-9 – U.S. Historical AIP Funding (Billions) 7-14
Table 7-10 – Historical Aviation Funding In Utah 7-16

LIST OF EXHIBITS

Chapter Two: Inventory

Exhibit 2-1 – Utah System of Airports 2-7
Exhibit 2-2 – Population by County in Utah, 2005 2-36
Exhibit 2-3 – Projected Population by County in Utah, 2030 2-37
Exhibit 2-4 – Employment by County in Utah, 2005 2-39
Exhibit 2-5 – Projected Employment by County in Utah, 2030 2-40
Exhibit 2-6 – Per Capita Income by County in Utah, 2005 2-42
Exhibit 2-7 – Projected Per Capita Income by County in Utah, 2030 2-43
Exhibit 2-8 – National Airspace System 2-46

Chapter Three: Airport Role Analysis

Exhibit 3-1 – Role Evaluation Process 3-3
Exhibit 3-2 – UCASP Airport Roles 3-14

Chapter Four: Forecasts

Exhibit 4-1 – Current and Projected Total Aircraft Operations 4-26
Exhibit 4-2 – Current and Projected Based Aircraft 4-27

Chapter Five: Adequacy Analysis

Exhibit 5-1 – Population with Access to Scheduled Commercial Air Service. 5-4
Exhibit 5-2 – Population with Access to Air Charter Service 5-6
Exhibit 5-3 – Utah Airport 2006 IFR Operations from Outside Utah 5-8
Exhibit 5-4 – Utah Airport 2006 IFR Arrivals 5-9
Exhibit 5-5 – 2006 Life Flight and Air-Med Landings 5-13
Exhibit 5-7 – Oil and Gas Activity in Relation to Utah Airports 5-17
Exhibit 5-6 – Major Tourism Destinations in Relation to Utah's Airports 5-16
Exhibit 5-8 – Utah Airports Capable of Serving Business Jets 5-19
Exhibit 5-9 – VLJ Facilities and Services Available at Utah Airports 5-21
Exhibit 5-10 – Airports with Facilities and Services Supporting VLJ Operations 5-22
Exhibit 5-11 – Employment within 30-minute Drive Time of System Airports 5-24
Exhibit 5-12 – Businesses with a Propensity to Utilize Aviation Services 5-26
Exhibit 5-13 – Population Served by an Airport with an Instrument Approach 5-30
Exhibit 5-14 – 30-minute Drive Time to International Airports 5-33
Exhibit 5-15 – 30-minute Drive Time to National Airports 5-34
Exhibit 5-16 – 30-minute Drive Time to GA Regional Airports 5-35
Exhibit 5-17 – 30-minute Drive Time to GA Community Airports 5-36

Exhibit 5-18 – 30-minute Drive Time to GA Local Airports 5-37
Exhibit 5-19 – Population within 30-minute Drive Time of a NPIAS Airport 5-39
Exhibit 5-20 – Registered Pilots within 30-minute Drive Time of a System Airport 5-41
Exhibit 5-21 – Facility and Service Objective Compliance 5-43

Chapter Six: Future System Analysis

Exhibit 6-1 – Wasatch Front Area Future Transportation Improvements Affecting Airports 6-5
Exhibit 6-2 – St. George Area Future Roadway Improvements Affecting Airports 6-7
Exhibit 6-3 – Cache Valley Future Roadway Improvements Affecting Airports 6-9
Exhibit 6-4 – Population with Access to Scheduled Commercial Air Service 6-12
Exhibit 6-5 – Airports Meeting Requirements to Support Emergency Medical Flights in Utah 6-17
Exhibit 6-6 – Current and Future Airports Meeting Requirements to Accommodate Business Jet Operations 6-22
Exhibit 6-7 – Current and Future VLJ Airport Population Coverage 6-26
Exhibit 6-8 – Current and Future Instrument Approach Population Coverage 6-30

Chapter Seven: Financial and Implementation Plan

Exhibit 7-1 – 20-Year Development Costs by Airport Role 7-8
Exhibit 7-2 – 5-Year Development Costs by Project Type 7-9
Exhibit 7-3 – 20-Year Development Costs by Project Type 7-10

Chapter One: Study Purpose

PLAN OVERVIEW

The purpose of this 2007 update of the Utah Continuous Airport System Plan (UCASP) is to assess the needs of the state's airport, help justify funding for needed airport improvements, and provide information for governmental and other entities concerning the value, use, and needs of the state's public use airports.

It is appropriate for state aviation system plans be updated at regular intervals. Since the release of the last UCASP in 1987, both the commercial and the general aviation industries have undergone notable change. This plan provides the Utah Division of Aeronautics (UDOA) with an important planning tool that enables them to remain current with industry trends. This plan also helps the Division determine how Utah's airport system should be developed to respond to future challenges and demand.

Through the National Plan of Integrated Airport Systems (NPIAS), the Federal Aviation Administration (FAA) monitors the development needs of the national air transportation system. State aviation system plans, are one of the primary inputs for updating the NPIAS. All general aviation and commercial airports in Utah that are open to the public are part of Utah's state airport system. Not all airports included in the state system are included in the NPIAS. Only those Utah airports included in the NPIAS are able to compete for federal funding from the FAA. All public-use airports in Utah can apply for grants from the UDOA. Chapter Two of this report provides detailed information on all airports included in this study.

The stated purpose of this updated to the UCASP is to provide the UDOA with guidelines to continue the successful development of its aviation system, with an emphasis on planning for the airport system as a whole. Within this process individual airport needs and deficiencies are considered within the broader framework of the entire Utah airport system.

The UCASP is intended to provide the UDOA with a useful decision making tool. With annual requests for grants that far exceed available financial resources, this plan provides the UDOA with information that it uses to:

- Help determine which system airports are most essential to Utah transportation needs and economic objectives.
- Identify projects which have the greatest potential to improve the performance of the Utah's airport system.
- Demonstrate how investment improves the performance of the Utah airport system relative to establish measures and benchmarks.

It is important to note that the UCASP is not a programming document. Inclusion of projects in this plan does not constitute a commitment of either state or federal funding. The UCASP is a "top down" planning study whose recommendations must still be implemented from the “bottom up”. Implementation of specific airport improvements identified in this study remains the responsibility of individual airport owners. Some actions identified by the UCASP could require the development of an updated airport master plan and in some cases an environmental assessment prior to actual development. Information contained in this document should be used by airports in Utah as they evaluate and determine their individual development needs.

STUDY PROCESS

The tasks undertaken to develop the UCASP are divided into eight specific tasks. A brief description of each of the study’s technical elements is as follows:

- **Inventory** – One of the first steps in updating the Utah’s plan for its airport system is the collection of current facility and activity data for all system airports. This information was obtained from existing data provided by the UDOA and the FAA.
- **Airport Role Analysis** – The FAA currently has a limited classification system for airports. This classification system does not relate each airport’s role to factors such as population, economic needs, geography, and accessibility. The Utah airport role analysis considers these factors, as well as aviation-related needs to develop a classification system for use in evaluation of the airport system’s performance.
- **Forecasts** – It is important to have a general understanding of which airports in the Utah system are likely to experience the most notable growth for the 5, 10, and 20 year forecast milestones. This task provides 20 year projections of key commercial and general aviation demand indicators.
- **Adequacy Analysis** – With roles, as well as system requirements identified for each airport, this task evaluates the Utah Airport System in terms of its performance. Specific areas of focus examined in evaluating the adequacy of Utah’s existing airport system include: economic development (industry, aircraft manufacturing, tourism, oil and mining); accessibility (commercial service, corporate/business aircraft, very light jets (VLJs), population, geographic coverage, life flight, fire fighting, general aviation); and intermodal access (air cargo, freight, rail). In addition, an evaluation of existing instrument approach procedures and Navigational Aid Systems (NAVAIDS) was completed to determine if additional services are warranted from an access and provision standpoint. Finally, the ability of the airports to meet the system requirements set forth as part of the airport roles is analyzed to determine where improvements may be warranted. This analysis identifies Utah Airport System needs to support future economic development and transportation needs.
- **Financial Needs Assessment** – This analysis evaluates statewide airport development needs, including meeting PCI targets, and is presented in aggregate format. The financial requirements necessary to preserve and develop the system of airports, including meeting the statewide PCI target, is identified. The existing airport priority system was reviewed as it relates to the UCASP analysis of airport roles, system requirements, and recommendations.

The types of projects eligible for funding and their priority based on the analysis of the system's performance were reviewed. Special projects were also considered as part of the priority system evaluation.

- **Implementation Plan** – Based on the findings of the system evaluation, recommendations were developed identifying future airport system needs. These needs include system wide issues as well as airport-specific needs and address the FAA's NPIAS designations. The development of an implementation plan was completed to describe an appropriate process to ensure the implementation of the study's recommendations including action items for the state, metropolitan areas, and individual airports, as appropriate. Action items include a description of each action item, responsible parties, schedule, financial requirements, and special conditions.
- **Pavement Program Review** – UDOA currently has a tremendous amount of data related to its airport pavement program and has developed policies and procedures to continue this program. This task provides a review of the policies and procedures currently in place related to airport pavements in terms of preservation versus rehabilitation, priorities, and data collection methods. The review is intended to provide guidance on maintaining an excellent airport pavement program and to provide a recommendation of a feasible pavement condition index (PCI) for the system. The results of this effort are presented in Appendix A of the UCASP.
- **Compatible Land Use Analysis** – Compatible land use is a significant issue related to the long-term development potential of Utah's airports. This task includes identification of current airport compatibility issues, airport compatible land use challenges for each airport in the System, land use control measures, airport land use issues at Utah airports, and land use compatibility planning steps. This task provides the UDOA with the constraints and impacts imposed on the aviation industry by incompatible surrounding land uses and the physical environment, as well as an identification and evaluation of the feasibility of different approaches that can be taken to protect airports from encroachments. The results of this effort are presented in Appendix B of the UCASP.

Chapter Two: Inventory

The inventory portion of the UCASP has two purposes. First, it is necessary to provide accurate data for use throughout the study. Second, the data collected creates a database, which the Utah Division of Aeronautics (UDOA) and the Federal Aviation Administration (FAA) can use for future reference.

This inventory chapter presents portions of the database in tabular format. The tables in this chapter group the airports by their category from the National Plan of Integrated Airport Systems (NPIAS). Within each NPIAS category, the airports are listed in alphabetical order by their associated city. Public use airports not in the NPIAS are included in the General Aviation category. The data presented in this chapter is organized as follows:

- Data Collection Methods
- Existing Facilities
- Approach Types and Weather Reporting Facilities
- Lighting and Visual Aids
- Airport Planning Documentation
- Airport Activity
- Socioeconomic Data
- Airspace

DATA COLLECTION METHODS

Data for this study was compiled by the UDOA and also includes information from the FAA. The data contains information regarding existing facilities and activity at each of the 47 airports included in the UCASP.

Airports considered in this study are those open to the public for use, including some privately-owned facilities. The Utah Airport System includes 47 public-use airports consisting of 7 commercial service airports and 40 general aviation airports. Within the general aviation airport category, there are three airports that are designated as relievers by the FAA and 2 privately-owned airports.

In addition to the data provided by the UDOA, data was reviewed and included as needed from the following sources:

- FAA Data/Records/Terminal Area Forecasts (TAF)
- Airport Master Records (5010s)
- Individual Airport Master Plans/Forecasts
- Individual Airport Layout Plans (ALP)

EXISTING FACILITIES

Table 2-1 presents current airport information by NPIAS category. Non-NPIAS airports are included in the General Aviation category. The NPIAS categories are described in the following section. In additional to NPIAS service levels, Table 2-1 also identifies the airport elevation, runway orientation, runway dimensions and surface type, the presence of a parallel taxiway, and taxiway width. This information is used in subsequent chapters to determine the status and condition of existing facilities, particularly with regard to runway lengths and airport capacity in the evaluation of the existing airport system.

National Plan of Integrated Airport Systems (NPIAS) and Service Level

The National Plan of Integrated Airport Systems (NPIAS) is the national airport system plan developed by the FAA to identify aviation facilities of significance to the national air transportation network. NPIAS airports are eligible for federal grants for airport planning and eligible capital improvements. The NPIAS defines an airport's status by its service level. The service level of an airport reflects the type of service the airport provides to the community. The service level also reflects the funding categories established by Congress to assist in airport development. These categories are:

- **Primary Service (PR)** - Primary Service airports are public use airports receiving scheduled airline passenger service, enplaning 10,000 or more passengers per year.
- **Commercial Service (CM**) - Commercial Service airports are public use airports which receive scheduled airline passenger service and which enplane 2,500 or more passengers annually.
- **Reliever (RL)** - Reliever airports are general aviation or commercial service airports which relieve congestion at a Primary Service airport by providing general aviation and non-airline commercial operators with alternative access to the community.
- **General Aviation (GA)** - General Aviation airports are either publicly or privately owned public use airports that primarily serve general aviation users.

Exhibit 2-1 presents the current Utah system of airports. The airports are grouped by current NPIAS category. Public use airports not included in the NPIAS, but eligible for state funding, are included in the General Aviation category. The Utah System of airports contains three Primary Commercial Service airports, four Commercial Service airports, three Reliever airports, twenty-four General Aviation airports, and thirteen non-NPIAS General Aviation airports.

Eligibility for State Funds

The UDOA supports airports through aviation fuel tax refunds, airport development grants, and a statewide pavement maintenance program. Aviation fuel tax receipts are the primary source of revenue for the grants provided by UDOA for the purpose of airfield capital improvements, airfield maintenance, capital equipment investment, local match for federal projects, and other service programs. All Utah system airports listed in Table 2-1 are open for use to the public and are eligible for airport improvement grants from the UDOA.

Table 2-1
Existing Facilities

Associated City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)	Taxiway Lighting
Primary Commercial Service										
Salt Lake City	Salt Lake City International	Yes	4,227	16L / 34R	12,004	150	Asphalt	Full	100	Lighted
				16R / 34L	12,000	150	Concrete	Full	75	Lighted
				17 / 35	9,596	150	Asphalt	Full	75	Lighted
				14 / 32	4,892	150	Asphalt	None		
St. George	St. George Municipal	Yes	2,941	16 / 34	6,606	100	Asphalt	Full	40	Lighted
Wendover	Wendover	Yes	4,235	8 / 26	8,000	150	Asphalt	None		
				12/ 30	8,001	100	Asphalt	None		
Commercial Service										
Bryce Canyon	Bryce Canyon	Yes	7,586	3 / 21	7,400	75	Asphalt	Full	35	Lighted
Cedar City	Cedar City Regional	Yes	5,626	2 / 20	8,653	150	Asphalt	Full	50	Lighted
				8 / 26	4,822	60	Asphalt	None		
Moab	Moab Canyonlands Field	Yes	4,553	3 / 21	7,100	75	Asphalt	Full	35	Lighted
Vernal	Vernal	Yes	5,278	16 / 34	6,201	150	Asphalt	Full	50	Lighted
				7 / 25	4,108	60	Asphalt	None		
Reliever										
Ogden	Ogden-Hinckley	Yes	4,470	3 / 21	8,103	150	Asphalt	Partial	50	Lighted
				7 / 25	5,600	150	Asphalt	None		
				16 / 34	5,352	150	Asphalt	None		
Salt Lake City	Salt Lake City Muni 2	Yes	4,603	16 / 34	5,860	100	Asphalt	Full	50	Lighted
Tooele	Tooele Valley Airport	Yes	4,318	17 / 35	6,100	100	Asphalt	Full	35	Lighted
General Aviation										
Beaver	Beaver Municipal	Yes	5,851	13 / 31	5,100	75	Asphalt	None		
				7 / 25	3,200	90	Dirt	None		
Blanding	Blanding Municipal	Yes	5,865	17 / 35	6,000	75	Asphalt	None		
Bluff	Bluff Airport	No	4,476	3 / 21	2,900	45	Asphalt	None		

Table 2-1, Continued
Existing Facilities

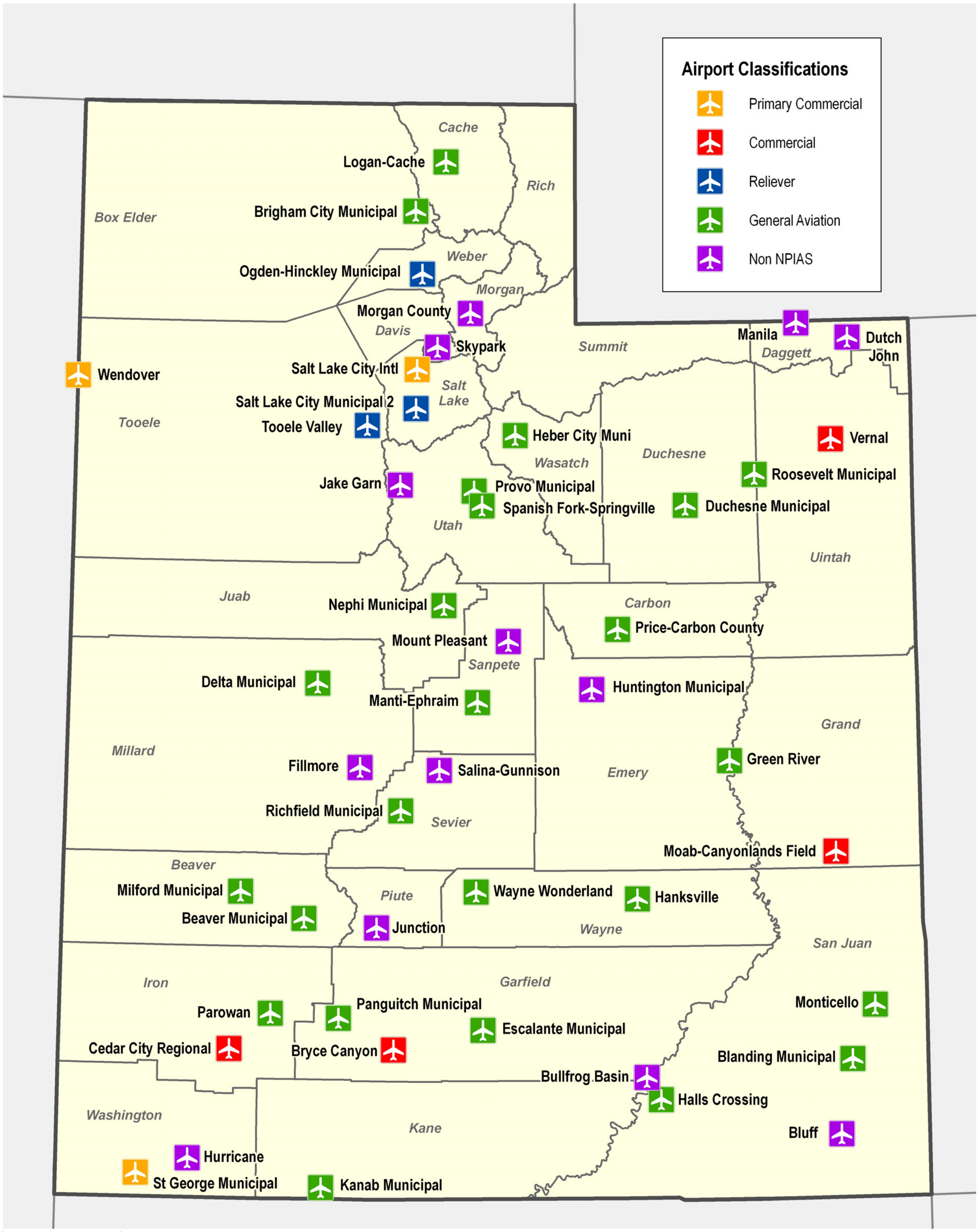
Associated City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)	Taxiway Lighting
General Aviation										
Bountiful	Skypark	No	4,234	16 / 34	4,700	70	Asphalt	Partial	25	None
Brigham City	Brigham City Municipal	Yes	4,229	16 / 34	8,900	100	Asphalt	Full	35	Lighted
Delta	Delta Municipal	Yes	4,755	12 / 30	5,935	85	Asphalt	None		
				17 / 35	6,011	75	Asphalt	None		
Duchesne	Duchesne Municipal	Yes	5,826	17 / 35	5,800	60	Asphalt	None		
				8 / 26	4,390	40	Dirt	None		
Dutch John	Dutch John	No	6,561	03 / 21	6,600	60	Asphalt	None		
				07 / 25	4,450	100	Turf/Dirt	None		
				11 / 29	4,650	150	Turf/Dirt	None		
Eagle Mountain	Jake Garn	No	4,845	17 / 35	5,000	50	ASPH/GRVL	None		
Escalante	Escalante Municipal	Yes	5,740	12 / 30	5,025	60	Asphalt	None		
Fillmore	Fillmore	No	4,988	04 / 22	5,050	75	Asphalt	None		
Glen Canyon Natl.	Bullfrog Basin	No	4,167	01 / 19	3,500	40	Asphalt	None		
Green River	Green River Municipal	Yes	4,225	13 / 31	5,600	75	Asphalt	Partial	35	Reflectors
Halls Crossing	Halls Crossing	Yes	4,388	01 / 19	5,700	60	Asphalt	Full	35	Reflectors
Hanksville	Hanksville	Yes	4,444	08 / 26	5,675	75	Asphalt	None		
				17 / 35	2,600	120	Dirt	None		
Heber	Heber City Muni	Yes	5,632	03 / 21	6,898	75	Asphalt	Full	35	Lighted
Huntington	Huntington Municipal	No	5,909	07 / 25	4,048	60	Asphalt	None		
				12 / 30	3,640	70	Dirt	None		
				18 / 36	2,079	56	Dirt	None		
Hurricane	Hurricane	No	3,347	18 / 36	3,410	40	Asphalt	None		
Junction	Junction	No	6,069	17 / 35	4,505	60	Asphalt	None		
Kanab	Kanab Municipal	Yes	4,867	01 / 19	6,193	75	Asphalt	None		

Table 2-1, Continued
Existing Facilities

Associated City	Airport	NPIAS	Elevation (Ft.)	Runway Orientation	Length (Ft.)	Width (Ft.)	Surface	Parallel Taxiway	Taxiway Width (Ft.)	Taxiway Lighting
General Aviation										
Loa	Wayne Wonderland	Yes	7,023	13 / 31	5,900	75	Asphalt	None		
Logan	Logan-Cache	Yes	4,457	17 / 35	9,095	100	Asphalt	Full	50	Lighted
				10 / 28	5,005	75	Asphalt	Partial	50	None
Manila	Manila	No	6,175	07 / 25	5,300	60	Asphalt	None		
Manti	Manti-Ephraim	Yes	5,500	03 / 21	4,868	75	Asphalt	None		
Milford	Milford Municipal	Yes	5,039	16 / 34	5,000	75	Asphalt	None		
Monticello	Monticello	Yes	6,998	16 / 34	4,817	75	Asphalt	Full	35	None
Morgan	Morgan County	No	5,010	03 / 21	3,904	50	Asphalt	None		
Mount Pleasant	Mount Pleasant	No	5,829	02 / 20	4,260	60	Asphalt	None		
Nephi	Nephi Municipal	Yes	5,009	16 / 34	6,300	100	Asphalt	Full	35	Lighted
Panguitch	Panguitch Municipal	Yes	6,757	01 / 19	5,700	75	Asphalt	None		
Parowan	Parowan	Yes	5,930	04 / 22	5,000	75	Asphalt	Full	35	Lighted
Price	Carbon County Regional	Yes	5,953	18 / 36	8,300	100	Asphalt	Partial	35	Lighted
				14 / 32	4,520	75	Asphalt	None		
				07 / 25	3,640	75	Asphalt	None		
Provo	Provo Municipal	Yes	4,491	13 / 31	8,599	150	Asphalt	Full	50	Lighted
				18 / 36	6,937	150	Asphalt	None		
Richfield	Richfield Municipal	Yes	5,279	01 / 19	6,600	75	Asphalt	None		
Roosevelt	Roosevelt Municipal	Yes	5,172	07 / 25	6,500	75	Asphalt	None		
Salina	Salina-Gunnison	No	5,159	02 / 20	3,815	60	Asphalt	None		
Spanish Fork	Spanish Fork-Springville	Yes	4,529	12 / 30	5,700	100	Asphalt	Full	35	Reflectors

Source: UDOA; FAA National Plan of Integrated Airport Systems (2007-2011), 2006

Exhibit 2-1
Utah System of Airports



Source: Wilbur Smith Associates, 2006

APPROACH TYPES AND WEATHER REPORTING FACILITIES

Table 2-2 presents data on approach visibility minimums, approach types for each runway end, and weather reporting capabilities at Utah's system airports. The data in each of these categories are described below.

Approach Visibility Minimums

Visibility minimum means the minimum visibility specified for approach, or landing, or takeoff, expressed in statute miles, or in feet where Runway Visual Range (RVR) is reported. This column includes the minimum visibility specified for instrument approaches expressed in statute miles. Straight-in (str) and circling (cir) patterns are also indicated for the instrument approaches. Runways without published instrument approach procedures are classified as visual. A standard visual approach under visual flight rules (VFR) requires a ceiling of 1,000 feet above ground level and forward visibility of three statute miles or greater at the airport.

Approach visibility minimums vary among airports and by approach types. Approach minimums are determined by individual airport and runway facilities, as well as topography and terrain characteristics of the approach and characteristics of the area surrounding the airport. Visibility minimums of 1 mile can be supported with visual runway markings and low intensity runway lights (LIRL) for nighttime operations. Medium intensity runway lights (MIRL) and precision or non-precision runway markings are required to reduce visibility minima to ¾ mile. To establish ½ mile-visibility minimums, the additional equipment requirements are precision runway markings, medium intensity runway lights (MIRLs) for nighttime operations, and an approved approach lighting system.

Global Positioning System/Wide Area Augmentation System (GPS/WAAS) precision approaches can be published with visibility minimums not lower than 1 mile visibility at most paved public use airports without requiring significant airport improvements in marking, lighting, and signage. However, according to estimates from the FAA, only Federal Aviation Regulation (FAR) Part 139 and public use airports with 5,000-foot long runways or greater will have GPS/WAAS instrument approach procedures by 2010. GPS/WAAS procedures for the remaining public airports with paved runways of less than 5,000 feet will be developed after 2010.

Approach Types

There are several types of published approaches at Utah system airports. These approach types are defined below.

- **Non/Directional Beacon (NDB**) – The NDB is a low or medium frequency ground-based radio navigation aid that broadcasts a continuous wave signal with a Morse Code identification on an assigned frequency signal. NDBs are used by pilots to determine the aircraft's bearing to the ground station. Some state and locally owned NDB frequencies are also used to provide weather information to pilots.

- **Very High Frequency Omni/Directional Range (VOR)** – The VOR is a ground-based radio navigation aid that broadcasts 360 degrees continuous directional information, providing aircraft location relative to the VOR station.
- **Global Positioning System (GPS)** – The GPS is a space-based radio navigation system consisting of a network of satellites and ground based stations. GPS receivers can process system signals to determine the users three-dimensional position (i.e., latitude, longitude and altitude), velocity (if applicable), and the precise time of day.
- **Localizer (LOC**) – The LOC is a radio transmitting antenna that provides lateral course guidance to the runway.
- **Localizer Directional Aid (LDA) –** The LDA is of comparable use and accuracy to a LOC but is not aligned with the runway. Straight-in minimums may be published where alignment does not exceed 30 degrees between the inbound course heading and runway heading. Circling minimums only are published where this alignment exceeds 30 degrees.
- **Distance Measuring Equipment (DME)** – DME is an Ultra High Frequency ground-based navigation aid that responds to aircraft DME avionics, thereby enabling the avionics to determine the slant range distance between the aircraft and the ground station.
- **Instrument Landing System (ILS) –** An ILS provides both horizontal and vertical course information to the runway threshold using a localizer, a glide slope, and other ground based facilities.

Weather Reporting Facilities

There are several types of weather reporting facilities in place at system airports in Utah. They include:

- **Automated Weather Observation System (AWOS)** – AWOS equipment automatically gathers weather data from various locations on and around an airport and transmits the information directly to pilots by means of computer generated voice messages over a discrete frequency.
- **Automated Surface Observation System (ASOS)** – The ASOS provides continuous minute-by-minute weather data observations and generates necessary aviation weather information via a discrete radio frequency by mean of a computer generated voice message.
- **DigiWx** – The DigiWx is an automated weather system reporting FAA certified altimeter and visibility readings, with advisory winds, temperature and humidity. The real time report is available over the airport's Unicom frequency, and can also be received via the internet as well as telephone dial-in. The DigiWx II is approved for FAA Part 91 and Part 135 IFR approaches
- **Low Level Wind Shear Alert System (LLWAS)** – Provides the air traffic control tower with information on wind conditions near the runway. It consists of an array of anemometers that read wind velocity and direction around the airport and

signal sudden changes that indicate wind shear.

- **Limited Aviation Weather Reporting Station (LAWRS)** – This system can be supplemental to an existing ASOS or AWOS system to provide additional weather data.
- **Super Unicom** – The Super Unicom is FAA certified for altimeter settings and other weather data required for instrument approach implementation. Information is broadcast via the airport traffic advisory frequency by a computer generated voice.
- **Terminal Doppler Weather Radar (TDWR)** – TDWR systems detect and report hazardous weather in and around airport terminal approach and departure zones. The TDWR identifies and warns air traffic controllers (ATCs) of low altitude wind shear hazards caused by microbursts and gust fronts, in addition to reporting on precipitation intensities and providing advanced warning of wind shifts.

Table 2-2
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility	Approach Types	Weather
Primary Commercial Service					
Salt Lake City	Salt Lake City International	16L	0' / 0 Mile (Str.)	ILS, GPS, VOR/DME	ASOS, TDWR
		34R	0' / 0 Mile (Str.)	ILS, GPS, VOR/DME	
		16R	0' / 0 Mile (Str.)	ILS, GPS	
		34L	0' / 0 Mile (Str.)	ILS, GPS	
		17	200' / 1/2 Mile (Str.)	ILS, GPS, VOR/DME	
		35	200' / 1/2 Mile (Str.)	ILS, GPS	
		14		Visual	
		32		Visual	
St. George	St. George Municipal	16		Visual	AWOS III
		34	594' / 1 Mile (Str.)	GPS, VOR/DME	
Wendover	Wendover	08	1,665' / 1 1/4 Mile (Cir.)	GPS, VOR/DME	AWOS III
		26	356' / 1 Mile (Str.)	GPS, VOR/DME	
		12		Visual	
		30		Visual	
Commercial Service					
Bryce Canyon	Bryce Canyon	03		Visual	ASOS
		21		Visual	
Cedar City	Cedar City Regional	02		Visual	ASOS
		20	200' / 1/2 Mile (Str.)	ILS, GPS, VOR	
		08		Visual	
		26		Visual	
Moab	Moab-Canyonlands Field	03	829' / 1 Mile (Str.)	GPS, VOR	ASOS
		21		Visual	
Vernal	Vernal	16		Visual	ASOS
		34	515' / 1 Mile (Str.)	GPS, VOR	
		07		Visual	
		25		Visual	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather
Reliever					
Ogden	Ogden-Hinckley	03	200' / 3/4 Mile (Str.)	ILS, GPS, WAAS	ASOS, LAWRS
		21		Visual	
		07	415' / 1 Mile (Str.)	GPS, VOR	
		25		Visual	
		16		Visual	
		34		Visual	
Salt Lake City	Salt Lake City Muni 2	16		Visual	AWOS III
		34	454' / 1 Mile (Str.)	GPS	
Tooele	Tooele Valley	17	726' / 1 Mile (Str.)	GPS, NDB	AWOS III
		35		Visual	
General Aviation					
Beaver	Beaver Municipal	07		Visual	AWOS III
		25		Visual	
		13		Visual	
		31		Visual	
Blanding	Blanding Municipal	17		Visual	AWOS III
		35	386' / 1 Mile (Str.)	GPS	
Bluff	Bluff Airport	03		Visual	
		21		Visual	
Bountiful	Skypark	16		Visual	
		34		Visual	
Brigham City	Brigham City Municipal	16		Visual	AWOS III
		34	411' / 1 Mile (Str.)	GPS, NDB	
Delta	Delta Municipal	17	341' / 1 Mile (Str.)	GPS, VOR/DME	AWOS III
		35	322' / 1 Mile (Str.)	GPS, VOR	
		12		Visual	
		30		Visual	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather Reporting
General Aviation					
Duchesne	Duchesne Municipal	17		Visual	Super Unicom
		35	834' / 1 Mile (Cir.)	VOR/DME	
		08		Visual	
		26		Visual	
Dutch John	Dutch John	03		Visual	
		21		Visual	
		07		Visual	
		25		Visual	
		11		Visual	
		29		Visual	
Eagle Mountain	Jake Garn	17		Visual	
		35		Visual	
Escalante	Escalante Municipal	13		Visual	
		31		Visual	
Fillmore	Fillmore	04		Visual	AWOS III
		22		Visual	
Glen Canyon Natl. Rec. Area	Bullfrog Basin	01		Visual	
		19		Visual	
Green River	Green River Municipal	13		Visual	
		31		Visual	
Halls Crossing	Halls Crossing	01		Visual	AWOS III
		19		Visual	
Hanksville	Hanksville	08		Visual	
		26		Visual	
		17		Visual	
		35		Visual	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather
General Aviation					
Heber	Heber City Municipal	03		Visual	AWOS III
		21	1,903' / 1 1/2 Mile (Cir.)	GPS	
Huntington	Huntington Municipal	8		Visual	DigiWx
		26	611' / 1 Mile (Cir.)	GPS, VOR/DME	
		12		Visual	
		30		Visual	
		18		Visual	
		36		Visual	
Hurricane	Hurricane	18		Visual	
		36		Visual	
Junction	Junction	17		Visual	
		35		Visual	
Kanab	Kanab Municipal	01	569' / 1 Mile (Str.)	GPS	AWOS III
		19		Visual	
Loa	Wayne Wonderland	13		Visual	
		31		Visual	
Logan	Logan-Cache	17	643' / 1 Mile (Str.)	GPS	ASOS
		35	289' / 1 Mile (Str.)	WAAS, GPS	
		10		Visual	
		28		Visual	
Manila	Manila	07		Visual	
		25		Visual	
Manti	Manti-Ephraim	03		Visual	
		21		Visual	
Milford	Milford Municipal	16		Visual	ASOS
		34	621' / 1 Mile (Cir.)	GPS, VOR	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather
General Aviation					
Monticello	Monticello	16		Visual	DigiWx
		34		Visual	
Morgan	Morgan County	03		Visual	
		21		Visual	
Mount Pleasant	Mount Pleasant	02		Visual	
		20		Visual	
Nephi	Nephi Municipal	16		Visual	
		34		Visual	
Panguitch	Panguitch Municipal	18		Visual	AWOS III
		36		Visual	
Parowan	Parowan	04		Visual	
		22		Visual	
Price	Carbon County Regional	18		Visual	ASOS
		36	405' / 1 Mile (Str.)	GPS, VOR/DME	
		07		Visual	
		25		Visual	
		14		Visual	
		32		Visual	
Provo	Provo Municipal	13	200' / 3/4 Mile (Str.)	ILS, GPS, VOR/DME, WAAS	AWOS III
		31		Visual	
		18		Visual	
		36		Visual	
Richfield	Richfield Municipal	01		Visual	AWOS III
		19	1,165' / 1/1/4 Mile (Str.)	GPS	
Roosevelt	Roosevelt Municipal	07		Visual	AWOS III
		25	740' / 1 Mile (Str.)	GPS, VOR	

Table 2-2, Continued
Approach Types and Navigation Aids

Associated City	Airport	Runway End	Approach Minimums Decision Height \ Visibility *	Approach Types	Weather
General Aviation					
Salina	Salina-Gunnison	02		Visual	
Salina	Salina-Gunnison	20		Visual	
Spanish Fork	Spanish Fork-Springville	12		Visual	
Spanish Fork	Spanish Fork-Springville	30		Visual	

Source: UDOA, Wilbur Smith Associates, FAA U.S. Terminal Procedures, Southwest, Volume 4, Effective 26 October 2006 – 23 November 2006
* Figures represent the best approach minimums where multiple instrument approach procedures are available.

LIGHTING AND VISUAL AIDS

Table 2-3 presents runway lighting and approach aids at Utah system airports. Information for system airports presented in this table includes the following:

- **Lighting**
  - High Intensity Runway Lighting (HIRL)
  - Medium Intensity Runway Lighting (MIRL)
  - Low Intensity Runway Lighting (LIRL)
  - Medium-Intensity Approach Light System (MALS)
  - Medium Intensity Approach Lights with Runway Alignment Indicator Lights (MALSR)
  - Approach Light System with Sequenced Flashers, required for Cat. II or III operations (ALSF2)

- **Visual Aids**
  - **Runway End Identification Lights (REILs)** – An airport lighting facility at the runway threshold consisting of one white high intensity strobe light installed at each corner of a runway end, enabling the pilot to quickly identify the runway threshold.
  - **Precision Approach Path Indicators (PAPIs)** – A system of lights on the side of the runway threshold which provides visual approach path guidance to the pilot of an aircraft approaching a runway. PAPIs are further divided into additional categories depending on the lighting configuration and location. Systems found at Utah system airports include:
    - **P2L –** Two Light PAPI on Left Side of Runway
    - **P2R -** Two Light PAPI on Right Side of Runway
    - **P4L –** Four Light PAPI of Left Side of Runway
    - **P4R -** Four Light PAPI on Right Side of Runway
  - **Visual Approach Slope Indicators (VASIs)** – A system of lights on the side of the runway threshold near the touchdown zone. VASIs provide visual approach slope guidance to a pilot which clears all obstruction in the approach area. Systems found at Utah system airports include:
    - **V2L** – Two Box VASI on Left Side of Runway
    - **V4L** – Four Box VASI on Left Side of Runway

Table 2-3
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
Primary Commercial Service				
Salt Lake City	Salt Lake City International	16L	HIRL \ ALSF2	P4L
		34R	HIRL \ ALSF2	P4L
		16R	HIRL \ ALSF2	P4L
		34L	HIRL \ MALSR	P4L
		17	HIRL \ MALSR	P4R
		35	HIRL \ MALSR	P4L
		14	HIRL	P4L
		32	HIRL	P4L
St. George	St. George Municipal	16	MIRL	P2L, REILs
		34	MIRL	P2L, REILs
Wendover	Wendover	08	MIRL	P4L, REILs
		26	MIRL	P4L
		12	MIRL	P4L, REILs
		30	MIRL	P4L, REILs
Commercial Service				
Bryce Canyon	Bryce Canyon	03	MIRL	P2L, REILs
		21	MIRL	P2L, REILs
Cedar City	Cedar City Regional	02	MIRL	P4L, REILs
		20	MIRL \ MALSR	P4L
		08	MIRL	P4L, REILs
		26	MIRL	REILs
Moab	Moab-Canyonlands Field	03	MIRL	P4L, REILs
		21	MIRL	P4L, REILs
Vernal	Vernal	16	MIRL	P4L, REILs
		34	MIRL	P4L, REILs
		07	MIRL	P2L, REILs
		25	MIRL	P2L, REILs

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
Reliever				
Ogden	Ogden-Hinckley	03	HIRL \ MALS	P4L
		21	HIRL	P4L
		07	MIRL	V4L, REILs
		25	MIRL	
		16	MIRL	P2L, REILs
		34	MIRL	P2L, REILs
Salt Lake City	Salt Lake City Muni 2	16	MIRL	P4L, REILs
		34	MIRL	P4L, REILs
Tooele	Tooele Valley	17	MIRL	P4L, REILs
		35	MIRL	P4L, REILs
General Aviation				
Beaver	Beaver Municipal	07		
		25		
		13	MIRL	P2L, REILs
		31	MIRL	P2R, REILs
Blanding	Blanding Municipal	17	MIRL	P4L, REILs
		35	MIRL	P4L, REILs
Bluff	Bluff Airport	03		
		21		
Bountiful	Skypark	16	LIRL	V2L
		34	LIRL	V2L, REILs
Brigham City	Brigham City Municipal	16	MIRL	
		34	MIRL	V4L, REILs
Delta	Delta Municipal	17	MIRL	P2L, REILs
		35	MIRL	P2L, REILs
		12		
		30		

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
General Aviation				
Duchesne	Duchesne Municipal	17	MIRL	P2L
		35	MIRL	P2L
		8		
		26		
Dutch John	Dutch John	03		
		21		
		07		
		25		
		11		
		29		
Eagle Mountain	Jake Garn	17		
		35		
Escalante	Escalante Municipal	13	MIRL	
		31	MIRL	
Fillmore	Fillmore	04	MIRL	P2L, REILs
		22	MIRL	P2L, REILs
Glen Canyon Natl. Rec. Area	Bullfrog Basin	01	LIRL *	
		19	LIRL *	
Green River	Green River Municipal	13	MIRL	P2L, REILs
		31	MIRL	P2L, REILs
Halls Crossing	Halls Crossing	01	MIRL	P2L
		19	MIRL	P2L
Hanksville	Hanksville	08		
		26		
		17	Non-Standard	
		35	Non-Standard	

* Runway lighting not available for public use.

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
General Aviation				
Heber	Heber City Municipal	03	MIRL	
		21	MIRL	P4L
Huntington	Huntington Municipal	8	MIRL	
		26	MIRL	
		12		
		30		
		18		
		36		
Hurricane	Hurricane	18		
		36		
Junction	Junction	17		
		35		
Kanab	Kanab Municipal	01	MIRL	P2L
		19	MIRL	
Loa	Wayne Wonderland	13	MIRL	
		31	MIRL	
Logan	Logan-Cache	17	MIRL	P2L, REILs
		35	MIRL	P2L, REILs
		10		
		28		
Manila	Manila	07	MIRL	
		25	MIRL	
Manti	Manti-Ephraim	03	MIRL	P2L
		21	MIRL	P2L
Milford	Milford Municipal	16	MIRL	V2L, REILs
		34	MIRL	V2L, REILs

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
General Aviation				
Monticello	Monticello	16	MIRL	P2L
		34	MIRL	P2L
Morgan	Morgan County	03		
		21		
Mount Pleasant	Mount Pleasant	02	MIRL	
		20	MIRL	
Nephi	Nephi Municipal	16	MIRL	
		34	MIRL	P2L, REILs
Panguitch	Panguitch Municipal	18	MIRL	P2L
		36	MIRL	P2L
Parowan	Parowan	04	MIRL	P2L, REILs
		22	MIRL	P2L, REILs
Price	Carbon County Regional Airport	18	MIRL	
		36	MIRL	V2L, REILs
		07		
		25		
		14	MIRL	
		32	MIRL	
Provo	Provo Municipal	13	HIRL	P4L, REILs
		31	HIRL	P2L
		18	MIRL	P2L
		36	MIRL	P2L
Richfield	Richfield Municipal	01	MIRL	P2L
		19	MIRL	P2L
Roosevelt	Roosevelt Municipal	07	MIRL	P2L, REILs
		25	MIRL	P2L, REILs

Table 2-3, Continued
Lighting and Visual Aids

Associated City	Airport	Runway End	Runway \ Approach Lighting	Visual Approach Aids
General Aviation				
Salina	Salina-Gunnison	02	MIRL	
		20	MIRL	
Spanish Fork	Spanish Fork-Springville	12	MIRL	P4L
		30	MIRL	P4L

Source: UDOA, Wilbur Smith Associates, 2006

AIRPORT PLANNING DOCUMENTATION

Information on system airports regarding the most recent master plans and/or airport layout plans was obtained from UDOA and is presented in **Table 2-4**. This information includes the date of the latest Airport Master Plan and or Airport Layout Plan for each system airport. In order to be eligible for federal and state funding, airports must have an airport master plan or airport layout plan approved and on file with the FAA. Projects are not eligible for FAA funds if they are not shown on the approved airport layout plan.

Table 2-4
Airport Master Plans and Airport Layout Plans

Associated City	Airport	Year of ALP	Year of Master Plan
Primary Commercial Service			
Salt Lake City	Salt Lake City International	2007	2007
St. George	St. George Municipal	2001	NA
Wendover	Wendover	1999	1990
Commercial Service			
Bryce Canyon	Bryce Canyon	2002	NA
Cedar City	Cedar City Regional	2003	2001
Moab	Moab-Canyonlands Field	2001	1992
Vernal	Vernal	2006	NA
Reliever			
Ogden	Ogden-Hinckley	2006	1993
Salt Lake City	Salt Lake City Muni 2	2007	2006
Tooele	Tooele Valley Airport	2005	NA
General Aviation			
Beaver	Beaver Municipal	2002	NA
Blanding	Blanding Municipal	2002	1996
Bluff	Bluff Airport	NA	NA
Bountiful	Skypark	2002	2002
Brigham City	Brigham City Municipal	NA	NA
Delta	Delta Municipal	2005	2002
Duchesne	Duchesne Municipal	2003	NA
Dutch John	Dutch John	2004	NA
Eagle Mountain	Jake Garn	1998	NA
Escalante	Escalante Municipal	1999	NA
Fillmore	Fillmore	2006	NA
Glen Canyon Natl. Rec. Area	Bullfrog Basin	NA	NA
Green River	Green River Municipal	2002	NA
Halls Crossing	Halls Crossing	NA	1987

Table 2-4, Continued
Airport Master Plans and Airport Layout Plans

Associated City	Airport	Year of ALP	Year of Master Plan
General Aviation			
Hanksville	Hanksville	2004	NA
Heber	Heber City Municipal	2005	1993
Huntington	Huntington Municipal	2004	NA
Hurricane	Hurricane	NA	2000
Junction	Junction	NA	NA
Kanab	Kanab Municipal	2004	2002
Loa	Wayne Wonderland	2002	NA
Logan	Logan-Cache	2003	1992
Manila	Manila	2004	NA
Manti	Manti-Ephraim	1995	1994
Milford	Milford Municipal	2000	NA
Monticello	Monticello	1997	1995
Morgan	Morgan County	NA	1998
Mount Pleasant	Mount Pleasant	NA	2002
Nephi	Nephi Municipal	1995	NA
Panguitch	Panguitch Municipal	2005	1993
Parowan	Parowan	2002	1995
Price	Carbon County Regional Airport	2005	1993
Provo	Provo Municipal	NA	2000
Richfield	Richfield Municipal	2005	2000
Roosevelt	Roosevelt Municipal	1999	NA
Salina	Salina-Gunnison	2003	NA
Spanish Fork	Spanish Fork-Springville	2005	NA

Source: UDOA, Wilbur Smith Associates, 2006

AIRPORT ACTIVITY

Historical aviation activity for each airport was obtained from the UDOA. Annual aircraft operations for calendar years 2004 and 2005 are presented in **Table 2-5**. Historical based aircraft information for calendar year 2005 is presented in **Table 2-6**. Historical passenger enplanement data is presented in **Table 2-7**. This data is used in developing forecasts for air carrier enplanements, commercial operations, general aviation operations, military operations, fleet mix, and based aircraft.

Table 2-5
Annual Aircraft Operations

Associated City	Airport		Annual Operations						
		Year	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total	
Primary Commercial Service									
Salt Lake City	Salt Lake City International	2005	171,706	207,270	4,998	68,905	2,619	455,498	T
		2004	150,776	182,455	4,812	60,551	2,406	401,000	T
St. George	St. George Municipal	2005	6,111	3,228	20,138	15,192	212	44,880	
		2004	6,111	3,228	19,697	14,860	212	44,107	
Wendover	Wendover	2005	1	730	5,129	2,040	100	8,000	
		2004		200	1,971	4,934	100	7,205	
Commercial Service									
Bryce Canyon	Bryce Canyon	2005		350	2,009	2,014		4,373	
		2004		350	1,971	1,969		4,290	
Cedar City	Cedar City Regional	2005	2,756	4,380	23,992	1,784	250	33,162	
		2004	2,756	4,380	21,959	5,154	250	34,498	
Moab	Moab-Canyonlands Field	2005	1,656	1,000	7,450	1,618	100	11,824	*
		2004	1,656	1,000	4,475	1,459	100	8,690	
Vernal	Vernal	2005	1,450	1,000	6,222	1,747		10,419	
		2004	1,450	1,000	5,570	2,981		11,001	*
Reliever									
Ogden	Ogden-Hinckley Municipal	2005		1,250	65,774	40,924	50	107,998	T
		2004		1,250	63,948	42,752	50	108,000	T
Salt Lake City	Salt Lake City Muni 2	2005		200	60,013	10,691	5,000	75,904	
		2004		200	59,298	10,502	5,000	75,000	*
Tooele	Tooele Valley Airport	2005		50	27,500	27,450		55,000	*
		2004		50	25,000	24,950		50,000	

Table 2-5, Continued
Annual Aircraft Operations

Associated City	Airport		Annual Operations					
		Year	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total
General Aviation								
Beaver	Beaver Municipal	2005		50	2,523	816		3,388
		2004		50	2,628	852		3,530
Blanding	Blanding Municipal	2005		100	3,525	1,033		4,657
		2004		100	3,504	1,026		4,630
Bluff	Bluff Airport	2005			902	467		1,369
		2004			876	454		1,330
Bountiful	Skypark	2005		50	56,538	14,190		70,777
		2004		50	55,356	13,892		69,298 *
Brigham City	Brigham City Municipal	2005		100	33,495	3,861		37,456
		2004		100	29,733	3,416		33,249 *
Delta	Delta Municipal	2005		50	2,035	708		2,793
		2004		50	1,971	684		2,705
Duchesne	Duchesne Municipal	2005		10	1,809	690		2,508
		2004		10	1,752	668		2,430
Dutch John	Dutch John	2005		50	223	242		515
		2004		50	219	236		505
Eagle Mountain	Jake Garn	2005			6,369	286		6,656
		2004			6,216	280		6,496
Escalante	Escalante Municipal	2005			223	292		515
		2004			219	286		505
Fillmore	Fillmore	2005		50	675	359		1,084
		2004		50	657	348		1,055
Glen Canyon Natl. Rec. Area	Bullfrog Basin	2005		100	223	192		515
		2004		100	219	186		505

Table 2-5, Continued
Annual Aircraft Operations

Associated City	Airport		Annual Operations						
		Year	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total	
General Aviation									
Green River	Green River	2005		100	1,359	2,125		3,584	
		2004		100	1,314	2,051		3,465	
Halls Crossing	Halls Crossing	2005		100	191	1,804		2,095	
		2004		100	219	2,081		2,400	*
Hanksville	Hanksville	2005		50	675	359		1,084	
		2004		50	657	348		1,055	
Heber	Heber City Municipal	2005		1,500	31,386	4,902	100	37,888	*
		2004		1,500	29,733	4,560	100	35,893	*
Huntington	Huntington Municipal	2005		20	902	447		1,369	
		2004		20	876	434		1,330	
Hurricane	Hurricane	2005		10	10,418	4,042		14,470	
		2004		10	7,737	2,999		10,746	*
Junction	Junction	2005			0	230		230	
		2004			10	220		230	
Kanab	Kanab Municipal	2005		50	4,307	2,930		7,286	
		2004		50	4,161	2,829		7,040	
Loa	Wayne Wonderland	2005		10	902	457		1,369	
		2004		10	876	444		1,330	
Logan	Logan-Cache	2005		500	56,033	2,240	50	58,823	
		2004		500	43,076	1,645	50	45,271	*
Manila	Manila	2005		20	223	272		515	
		2004		20	219	266		505	
Manti	Manti-Ephraim	2005		10	1,128	516		1,654	
		2004		10	1,095	500		1,605	
Milford	Milford Municipal	2005		20	2,266	2,437		4,723	
		2004		20	2,190	2,355		4,565	

Table 2-5, Continued
Annual Aircraft Operations

Associated City	Airport		Annual Operations						
		Year	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total	
General Aviation									
Monticello	Monticello	2005		50	2,035	708		2,793	
		2004		50	1,971	684		2,705	
Morgan	Morgan County	2005		20	7,225	2,099		9,344	
		2004		20	7,008	2,035		9,063	*
Mount Pleasant	Mount Pleasant	2005		10	1,809	690		2,508	
		2004		10	1,752	668		2,430	
Nephi	Nephi Municipal	2005		20	7,130	2,552		9,702	*
		2004		20	6,908	2,483		9,411	
Panguitch	Panguitch Municipal	2005		10	1,355	574		1,939	
		2004		10	1,314	556		1,880	
Parowan	Parowan	2005		20	5,917	2,979		8,916	*
		2004		20	7,227	3,643		10,890	
Price	Price-Carbon County	2005		1,000	7,385	2,879	50	11,314	
		2004		1,000	6,570	2,445	50	10,065	*
Provo	Provo Municipal	2005		2,700	72,803	59,347	150	135,000	T
		2004		2,700	109,274	34,876	150	147,000	
Richfield	Richfield Municipal	2005		100	12,834	2,372		15,312	*
		2004		75	6,132	3,046		9,253	*
Roosevelt	Roosevelt Municipal	2005		20	2,035	738		2,793	
		2004		20	1,971	714		2,705	
Salina	Salina-Gunnison	2005			902	467		1,369	
		2004			876	454		1,330	
Spanish Fork	Spanish Fork-Springville	2005		50	42,467	11,760		54,277	*
		2004		50	34,551	9,559		44,160	*
STATE TOTALS		**2005**	**183,680**	**226,408**	**605,452**	**305,427**	**8,681**	**1,329,648**	
		2004	**162,749**	**201,038**	**589,768**	**274,335**	**8,468**	**1,236,356**	

Source: UDOA, Wilbur Smith Associates, 2006 *=Operations count derived from sampling at airport; T=Tower reported operations

Table 2-6
2005 Based Aircraft

Associated City	Airport	Based Aircraft							
		Single Engine	Multi Engine	Jet	Helicopter	Glider	Military	Ultra-Light	Total
Primary Commercial Service									
Salt Lake City	Salt Lake City International	213	69	17	11	1	11	0	322
St. George	St. George Municipal	150	15	0	10	2	0	0	177
Wendover	Wendover	3	0	6	0	0	0	0	9
Commercial Service									
Bryce Canyon	Bryce Canyon	7	1	0	1	0	0	0	9
Cedar City	Cedar City Regional	42	3	0	1	0	0	2	48
Moab	Moab-Canyonlands Field	22	1	0	0	0	0	2	25
Vernal	Vernal	24	1	0	0	1	0	8	34
Reliever									
Ogden	Ogden-Hinckley Municipal	241	34	10	4	0	0	3	292
Salt Lake City	Salt Lake City Muni 2	190	10	2	4	0	8	0	214
Tooele	Tooele Valley Airport	16	2	0	0	0	0	2	20
General Aviation									
Beaver	Beaver Municipal	8	0	0	0	0	0	4	12
Blanding	Blanding Municipal	10	4	0	1	1	0	0	16
Bluff	Bluff Airport	4	0	0	0	0	0	0	4
Bountiful	Skypark	183	13	0	12	0	0	0	208
Brigham City	Brigham City Municipal	76	2	1	1	0	0	0	80
Delta	Delta Municipal	9	0	0	0	0	0	0	9
Duchesne	Duchesne Municipal	8	0	0	0	0	0	0	8
Dutch John	Dutch John	0	0	0	0	0	0	0	0
Eagle Mountain	Jake Garn	1	0	0	0	0	0	0	1
Escalante	Escalante Municipal	2	0	0	0	0	0	0	2
Fillmore	Fillmore	1	0	0	0	0	0	0	1
Glen Canyon Natl. Rec. Area	Bullfrog Basin	0	0	0	0	0	0	0	0
Green River	Green River	6	0	0	0	0	0	0	6

Table 2-6, Continued
2005 Based Aircraft

Associated City	Airport	Based Aircraft							
		Single Engine	Multi Engine	Jet	Helicopter	Glider	Military	Ultra-Light	Total
General Aviation									
Halls Crossing	Halls Crossing	0	0	0	0	0	0	0	0
Hanksville	Hanksville	3	0	0	0	0	0	0	3
Heber	Heber City Municipal	75	4	3	3	12	0	3	100
Huntington	Huntington Municipal	4	0	0	0	0	0	0	4
Hurricane	Hurricane	52	2	0	1	1	0	12	68
Junction	Junction	0	0	0	0	0	0	0	0
Kanab	Kanab Municipal	15	2	0	1	1	0	0	19
Loa	Wayne Wonderland	4	0	0	0	0	0	0	4
Logan	Logan-Cache	110	5	8	2	6	0	5	136
Manila	Manila	0	0	0	0	0	0	0	0
Manti	Manti-Ephraim	3	0	0	0	0	0	0	3
Milford	Milford Municipal	4	0	0	0	0	0	0	4
Monticello	Monticello	9	0	0	0	0	0	0	9
Morgan	Morgan County	30	2	0	0	31	0	7	70
Mount Pleasant	Mount Pleasant	5	0	0	0	0	0	0	5
Nephi	Nephi Municipal	4	2	1	0	1	0	1	9
Panguitch	Panguitch Municipal	5	0	0	0	0	0	0	5
Parowan	Parowan	25	0	0	0	8	0	0	33
Price	Price-Carbon County	34	0	0	0	0	0	0	34
Provo	Provo Municipal	120	25	4	17	0	0	0	166
Richfield	Richfield Municipal	23	2	0	1	0	0	3	29
Roosevelt	Roosevelt Municipal	10	2	0	0	0	0	0	12
Salina	Salina-Gunnison	5	0	0	0	0	0	0	5
Spanish Fork	Spanish Fork-Springville	86	15	0	5	3	0	2	111
STATE TOTALS		**1,842**	**216**	**52**	**75**	**68**	**19**	**54**	**2,326**

Source: UDOA, Wilbur Smith Associates, 2006

Table 2-7
2000 - 2005 Passenger Enplanements

Associated City	Airport	2000	2001	2002	2003	2004	2005
Primary Commercial Service							
Salt Lake City	Salt Lake City International	9,522,344	8,951,776	8,997,942	8,958,003	8,884,880	10,601,918
St. George	St. George Municipal	42,733	43,609	41,682	46,301	48,101	49,667
Wendover	Wendover	**	**	**	**	**	23,620
Commercial Service							
Bryce Canyon	Bryce Canyon	3,149	2,503	1,685	2,112	2,915	2,856
Cedar City	Cedar City Regional	10,439	10,179	11,069	8,625	7,226	10,412
Moab	Moab-Canyonlands Field	2,145	2,763	2,483	2,914	3,522	3,078
Vernal	Vernal	5,944	912	2,119	2,189	1,356	1,597
STATE TOTALS		**9,586,754**	**9,011,742**	**9,056,980**	**9,020,144**	**8,948,000**	**10,669,528**

** No commercial service at airport
Source: UDOA, Wilbur Smith Associates, 2006

SOCIOECONOMIC DATA

Demographic Trends

Existing socioeconomic conditions, along with historical trends and future projections, have been analyzed using data supplied by the Governor's Office of Planning and Budget, the U.S. Census Bureau, and Woods & Poole Economics, Inc. This demographic profile focuses on the State of Utah, its seven Multi-County Districts (MCDs), and the 29 individual counties. The primary purpose of the demographic overview is to identify growth trends throughout the state, which can then be related to aviation system needs and requirements.

There are seven MCDs in Utah. Demographic data for these districts is presented at the county level. The seven MCDs, and their respective counties, are listed in **Table 2-8**.

Table 2-8
Utah Multi-County Districts and Counties

Bear River	Central	Mountainland	Southeast	Southwest	Uintah Basin	Wasatch Front
Box Elder Cache Rich	Juab Millard Piute Sanpete Sevier Wayne	Summit Utah Wasatch	Carbon Emery Grand San Juan	Beaver Garfield Iron Kane Washington	Daggett Duschesne Uintah	Davis Morgan Weber Salt Lake Tooele

Source: Governor's Office of Planning and Budget, Wilbur Smith Associates, 2006

Relevant socioeconomic characteristics evaluated in this analysis include the following:

- Population
- Employment
- Personal income

Population

In 2000, the population of Utah was 2,246,553 persons. By 2005, this number had risen 12.57% to 2,528,926, an average annual growth rate of 2.4%. **Table 2-9** shows 2000 and 2005 population, 2030 projections, and average annual growth rates (AAG) for the State of Utah and its Multi-County Districts. The Wasatch Front MCD includes both Salt Lake and Utah Counties, and with a 2005 population of over 1.5 million residents, has the highest population of the MCDs. From 2000 to 2005, the Mountainland and Southwest MCDs experienced dramatic growth, with average annual growth rates of 4.11% and 5.12%, respectively. Of the seven MCDs, only the Southeast district experienced a loss in population between 2000 and 2005, but only at an average annual rate of -0.46%.

Table 2-9
MCD Population and Population Projections, 2000-2030

MCD	2000	2005	2030	AAG 2000-2005	AAG 2005-2030
Bear River	136,712	149,705	260,458	1.83%	2.24%
Central	66,506	71,046	104,798	1.33%	1.57%
Mountainland	417,375	510,532	935,965	4.11%	2.45%
Southeast	54,075	52,832	62,763	-0.46%	0.69%
Southwest	142,006	182,295	461,706	5.12%	3.79%
Uintah Basin	40,627	42,327	53,347	0.82%	0.93%
Wasatch Front	1,389,252	1,520,189	2,207,282	1.82%	1.50%
State of Utah	**2,246,553**	**2,528,926**	**4,086,319**	**2.40%**	**1.94%**

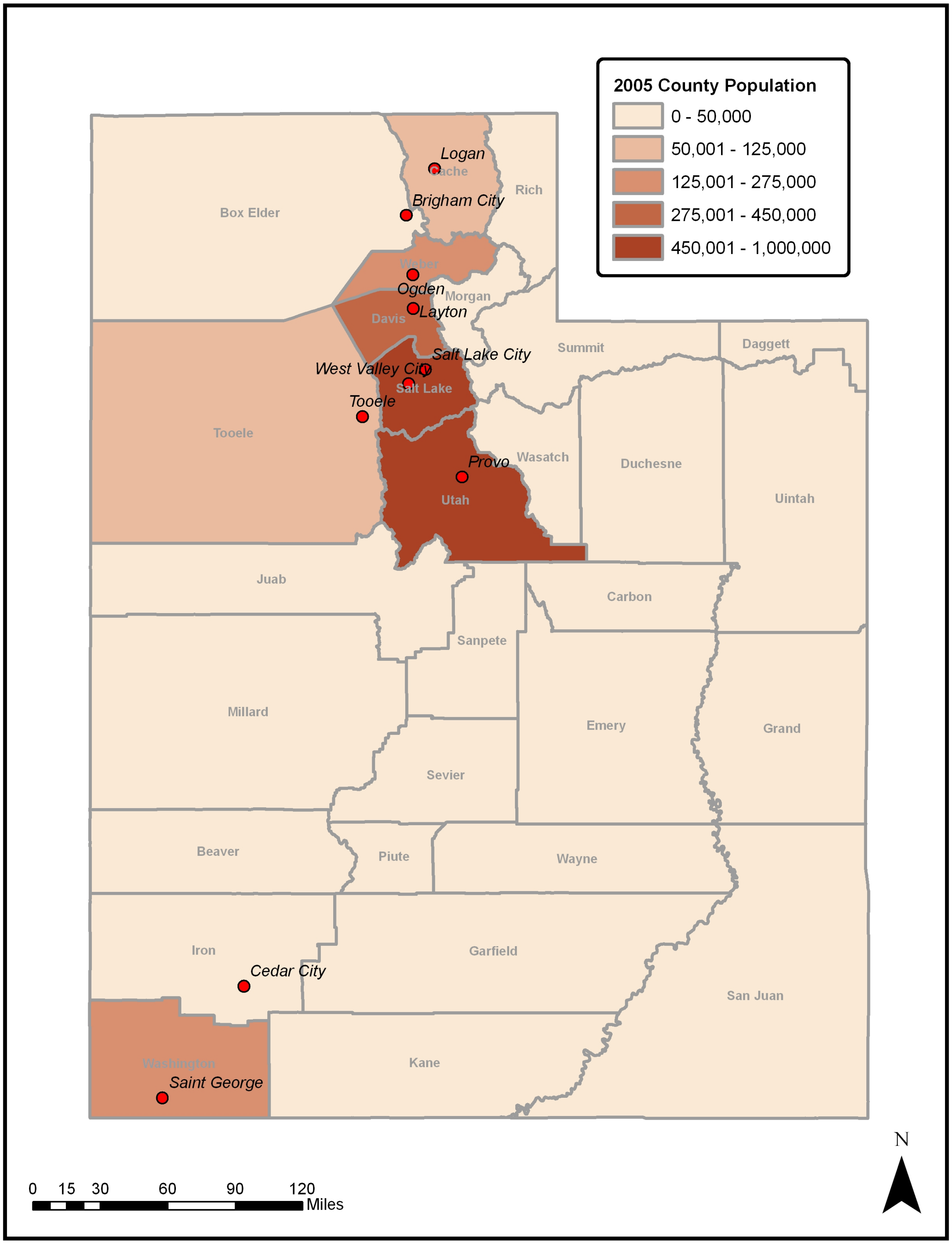
Source: Governor's Office of Planning and Budget, Wilbur Smith Associates, 2006

Between 2000 and 2005, only 4 of the 29 counties in Utah experienced a loss of population. Of the rest, only 7 experienced an average annual growth rate greater than or equal to the statewide rate of 2.4%. With a growth rate of 6.53% annually, Washington County experienced the most rapid growth of the period. Utah's two largest counties, Salt Lake and Utah, had 2005 populations of 970,748 and 453,997. Together they help to make the Wasatch Front MCD the most populated region of the State. **Exhibit 2-2** illustrates population ranges by county in Utah.

Future population projections by the Utah Governor's Office of Planning and Budget indicate that many of the population trends experienced from 2000 to 2005 will continue. Utah, as a whole, is expected to have over 4 million residents by 2030, slowing to an average annual growth rate of 1.94% near this time. Of the MCDs, the Southwest district is expected to maintain a relatively high growth rate of 3.79%, increasing its population to over 450,000. The Wasatch Front is expected to grow at a rate just under its current rate to reach a population of over 2.2 million by 2030.

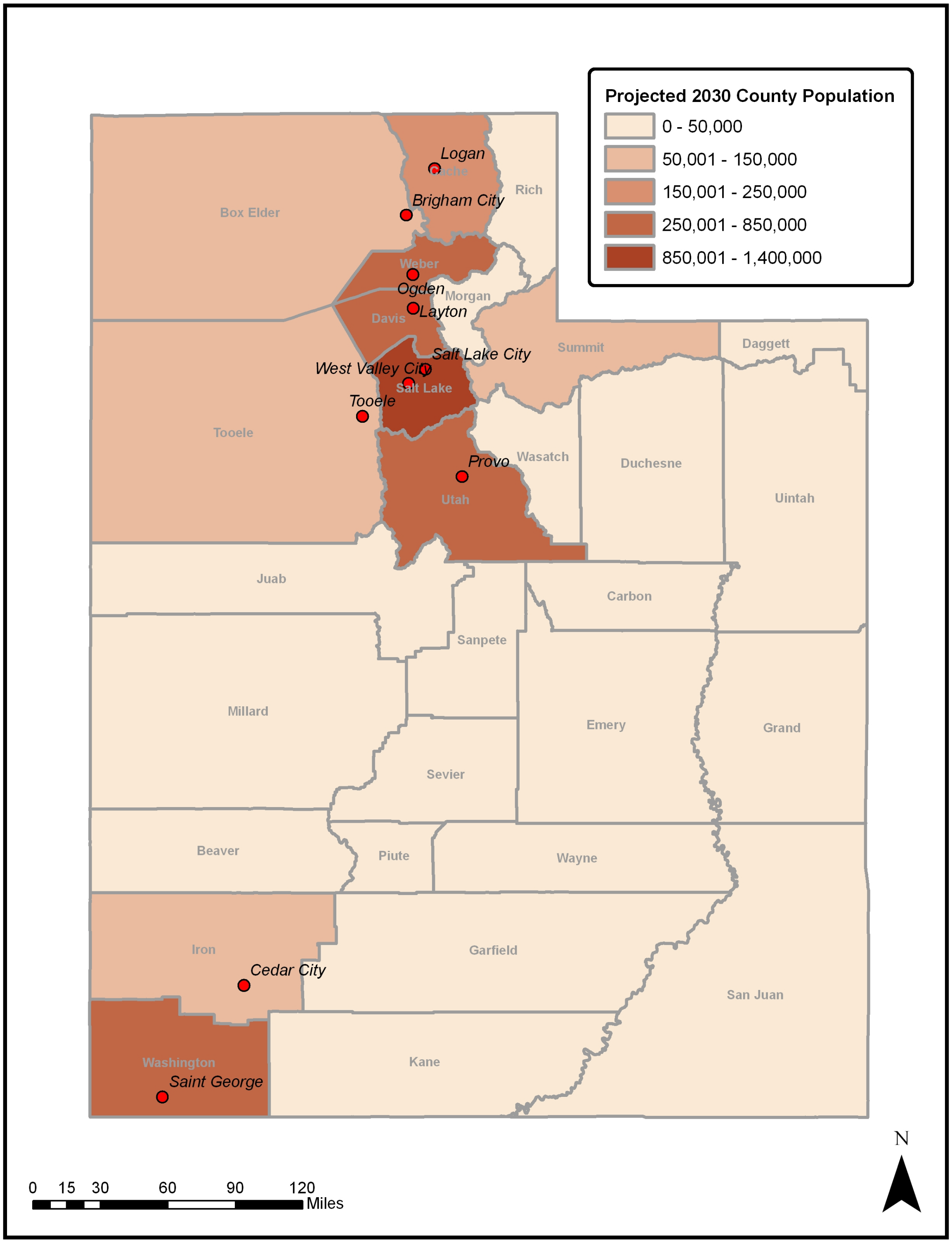
All of Utah's 29 individual counties are expected to experience population growth between 2005 and 2030, with 11 expected to grow at a rate faster than the state as a whole. Washington County is expected to continue to have the fastest growing population, followed by Wasatch, Tooele, Utah, and Summit counties. Salt Lake County is expected to reach a population of nearly 1.4 million by 2030, remaining the most populated county in the State. Fifteen of the 29 counties are expected to grow faster from 2005 to 2030 than they did during the 2000 to 2030 period. Most of these 15 are counties with relatively low populations. **Exhibit 2-3** illustrates the 2030 projected population by county in Utah.

Exhibit 2-2
Population by County in Utah, 2005



Source: 2005 Baseline Projections, Governor's Office of Planning and Budget., Wilbur Smith Associates, 2006

Exhibit 2-3
Projected Population by County in Utah, 2030



Source: 2005 Baseline Projections, Governor's Office of Planning and Budget., Wilbur Smith Associates, 2006

Employment

Employment in Utah has risen from 1.3 million jobs in 2000 to nearly 1.5 million jobs in 2005, an annual increase of 1.87%. As with population, Salt Lake and Utah counties have the largest number of jobs, with 646,003 and 195,196, respectively. Thus, the Wasatch Front also leads the MCDs in job volume. Southwest and Mountainland are again the fastest growing MCDs in this category, with average annual rates of 3.36% and 2.33%. **Table 2-10** summarizes employment characteristics of Utah and its MCDs.

Table 2-10
MCD Employment and Employment Projections, 2000-2030

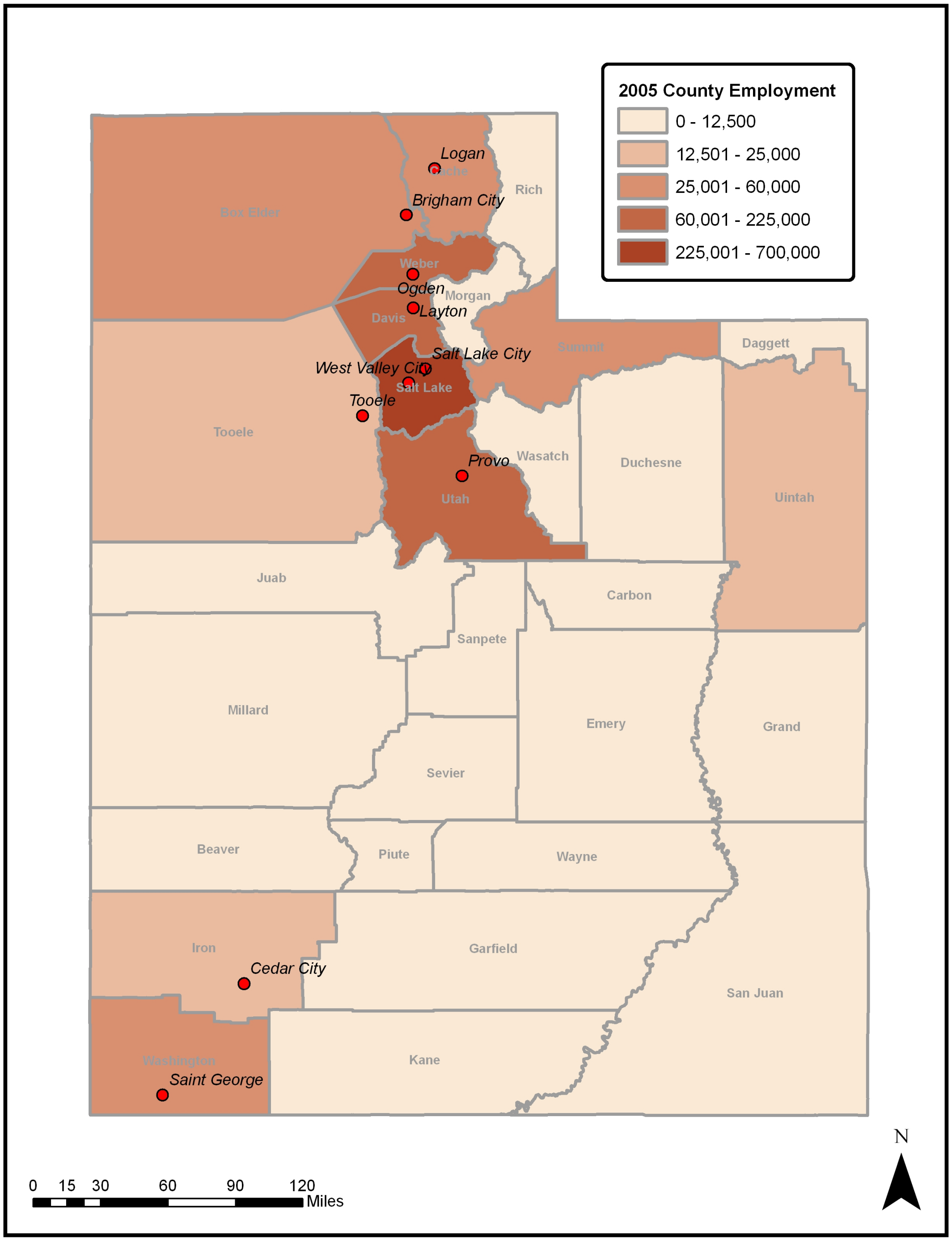
MCD	2000	2005	2030	AAG 2000-2005	AAG 2005-2030
Bear River	78,764	86,944	125,706	2.00%	1.49%
Central	31,753	34,846	47,559	1.88%	1.25%
Mountainland	225,518	253,076	411,699	2.33%	1.97%
Southeast	27,427	29,549	37,575	1.50%	0.97%
Southwest	73,936	87,240	169,809	3.36%	2.70%
Uintah Basin	21,015	22,423	27,603	1.31%	0.83%
Wasatch Front	881,696	956,022	1,397,090	1.63%	1.53%
STATE OF UTAH	**1,340,109**	**1,470,100**	**2,217,041**	**1.87%**	**1.66%**

Source: 2005 Baseline Projections, Governor's Office of Planning and Budget., Wilbur Smith Associates, 2006

None of Utah's counties experienced a loss in job quantity between 2000 and 2005, with 12 counties having an annual growth rate greater than that of the State as a whole. Of these, a 4.22% rate in Washington County accounted for over 10,000 new jobs, a 2.23% rate in Utah County accounted for over 20,000 new jobs, and Salt Lake County's rate of 1.52% accounted for the creation of over 40,000 new jobs. In 2004, the statewide unemployment rate was 5.2% and varied greatly from county to county. For example, Cache County had an unemployment rate of only 3.9%, while San Juan County's rate was 10%.

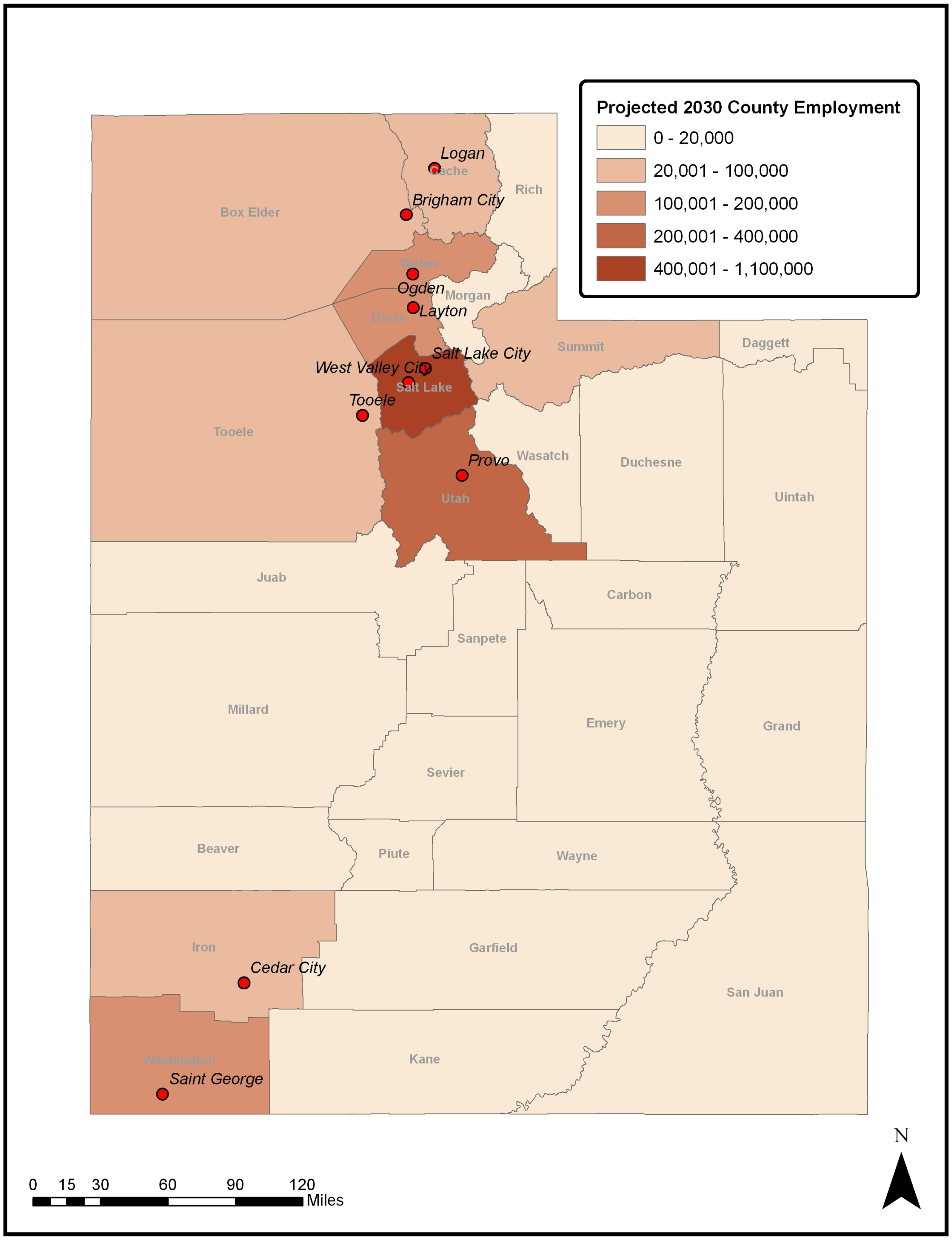
By 2030, Utah is expected to support over 2.2 million jobs. The average annual growth rate is only expected to slow to 1.66%. The Mountainland and Southwest MCDs are expected to maintain an employment growth rate higher than that of the state. During the same period, no individual counties are expected to lose job volume. Many of the same counties that experienced rapid growth from 2000 to 2005 are expected to continue these growth rates through 2030. Juab, Kane, Summit, Tooele, Wasatch, and Washington counties are all projected to maintain average annual growth rates of at least 2%. In addition to population growth, Washington County is also expected to lead the state in job growth, with the number of jobs in the county doubling to nearly 120,000 by 2030. **Exhibits 2-4** and **Exhibits 2-5** illustrate employment at the county level in 2005 and projected levels for 2030.

Exhibit 2-4
Employment by County in Utah, 2005



Sources: U.S. Bureau of Economic Analysis, Utah Department of Work Force Services, Wilbur Smith Associates, 2006

Exhibit 2-5
Projected Employment by County in Utah, 2030



Sources: U.S. Bureau of Economic Analysis, Utah Department of Work Force Services, Wilbur Smith Associates, 2006

Income

Per capita income in Utah increased between 2000 and 2005 at an average annual rate of 2.59%, raising the statewide average to $23,796. Regionally, all MCDs experienced a growth in per capita income. In general, districts with a lower average per capita income experienced faster growth between 2000 and 2005, while those with higher income rates experienced slower growth, indicating that the statewide per capita income in Utah was beginning to even out. For example, the highest-paid MCD, Mountainland, experienced an average annual growth rate of only 1.85% between 2000 and 2005, while the lowest paid, Central, grew at 4.08% annually. **Table 2-11** summarizes per capita income in Utah at the MCD level.

Table 2-11
MCD Per Capita Income and Projections, 2000-2030

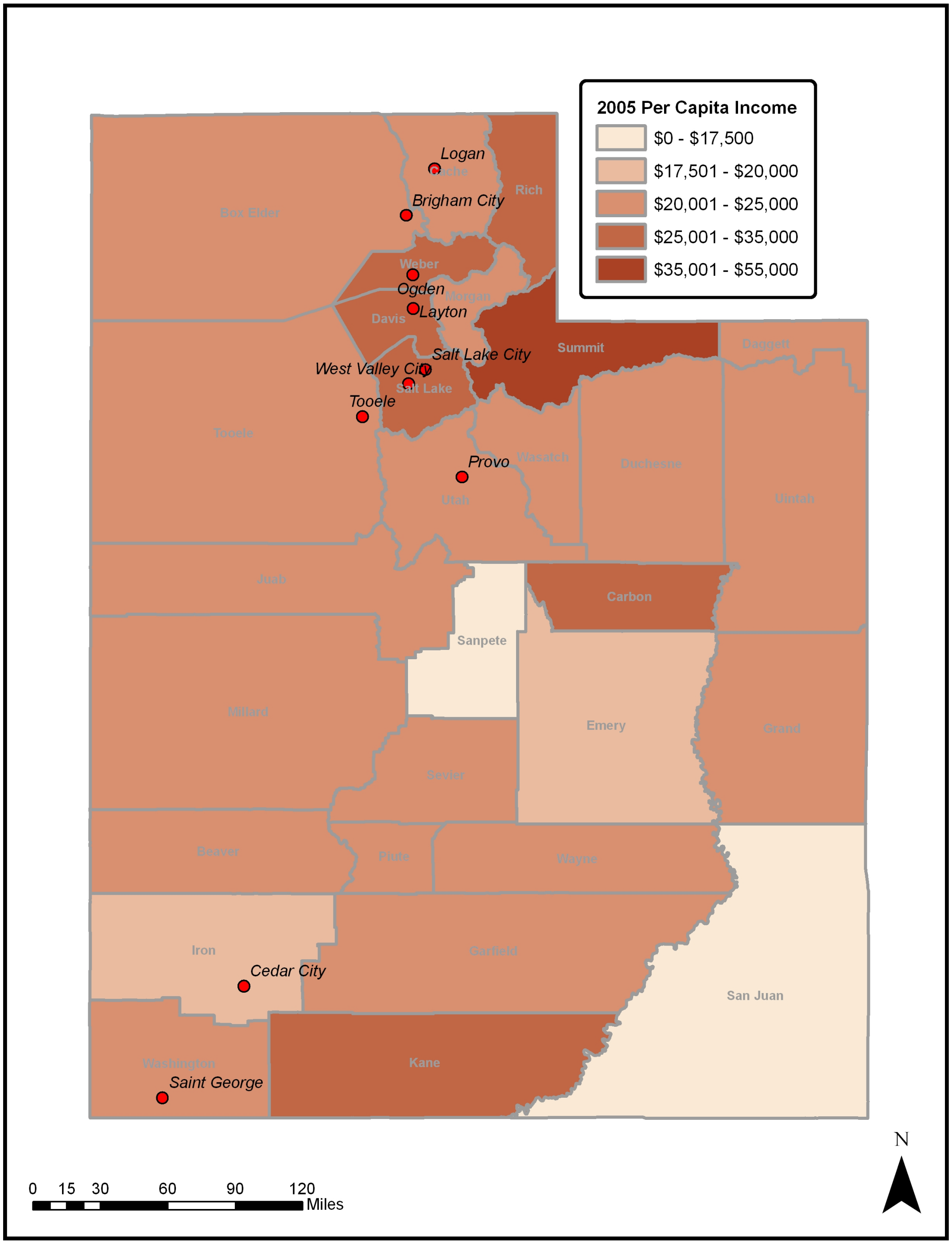
MCD	2000	2005	2030	AAG 2000-2005	AAG 2005-2030
Bear River	19,974	23,578	70,962	3.37%	4.51%
Central	17,008	20,775	69,734	4.08%	4.96%
Mountainland	28,335	31,055	94,215	1.85%	4.54%
Southeast	18,104	21,746	67,985	3.73%	4.67%
Southwest	19,356	23,153	74,785	3.65%	4.80%
Uintah Basin	17,036	22,214	64,438	5.45%	4.35%
Wasatch Front	23,485	26,430	76,617	2.39%	4.35%
State of Utah	**$23,878**	**$27,140**	**$81,915**	**2.59%**	**4.52%**

Source: Woods & Poole Economics, Inc. Wilbur Smith Associates 2006

Several counties experienced a faster growth in per capita income than the state as a whole. From 2000 to 2005, the average income of Piute County recovered from a low of $15,520 to $22,253, an average increase of 7.47% per year. Carbon, Daggett, Garfield, and Uintah counties also experienced income growth rates over 5%. With an average per capita income of $51,287 in 2005, Summit County is the highest paid county in Utah.

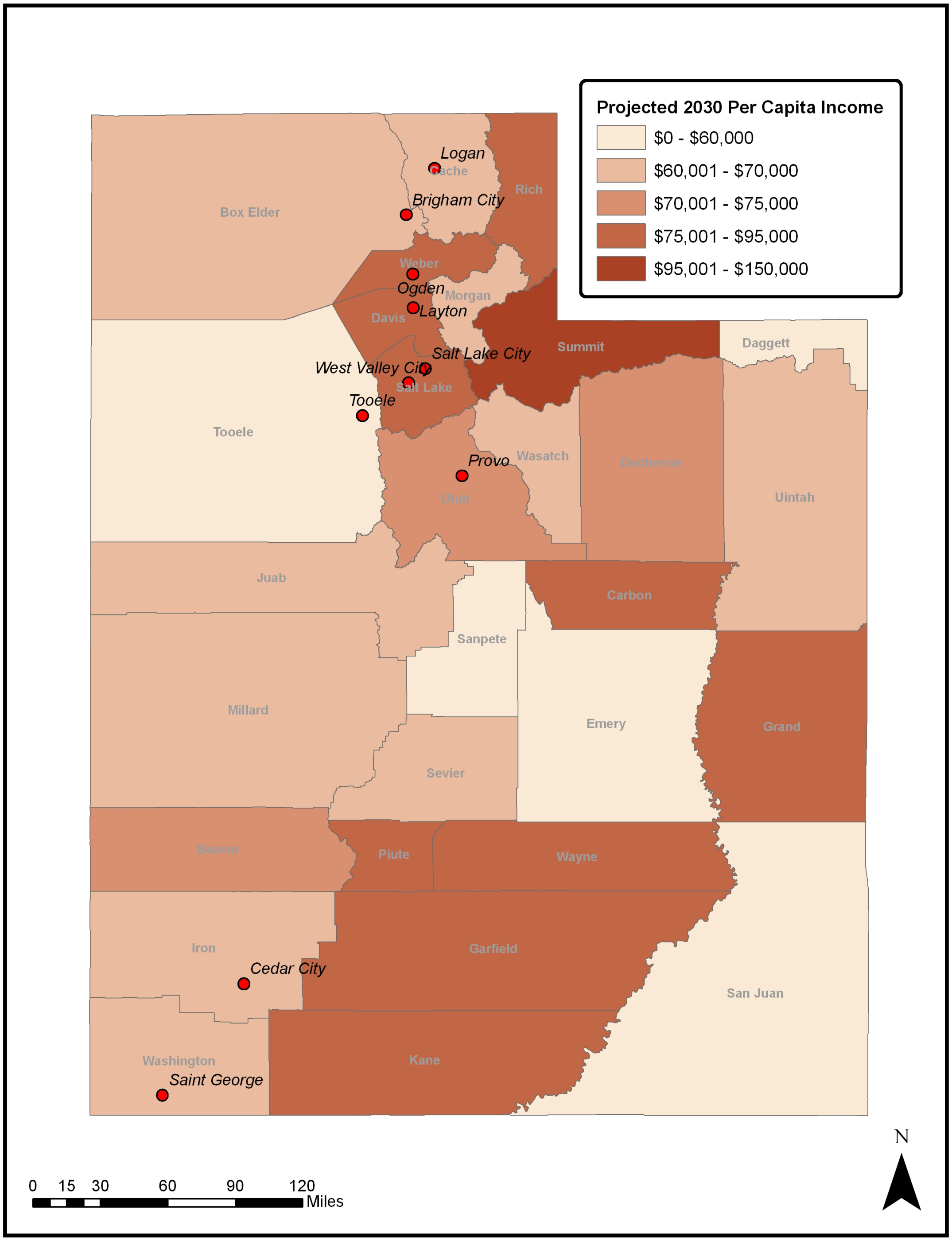
From 2005 through 2030 the average annual growth rate of per capita income in Utah is expected to increase to 4.59% per year. All seven MCDs are projected to have a similar growth rate, with none being above 5% and none below 4%. Woods and Poole projections expect the income growth rates for individual counties in Utah to also level out somewhat over the 25-year period, with only 4 counties growing at an average rate over 5%, and only 2 growing at a rate below 4%. **Exhibit 2-6** and **Exhibit 2-7** illustrate per capita income levels for 2005 and 2030 at the county level.

Exhibit 2-6
Per Capita Income by County in Utah, 2005



Source: Woods & Poole Economics, Inc. 2006

Exhibit 2-7
Projected Per Capita Income by County in Utah, 2030



Source: Woods & Poole Economics, Inc. 2006

AIRSPACE

The primary purpose of airspace class designations is to prevent mid-air collisions. This is accomplished by establishing rules for keeping aircraft separated that apply in each airspace class. In general, aircraft operate under one of two sets of rules – visual flight rules (VFR) or instrument flight rules (IFR) and each set of rules uses a different methodology to separate aircraft.

Under VFR, pilots rely on the “see-and-avoid” methodology to prevent mid-air collisions. Under this methodology, aviators are expected to maintain a visual lookout for other aircraft and alter course accordingly to avoid collisions and near misses. Different classes of airspace require different visibility and cloud ceiling requirements in order to ensure adequate visibility and safe VFR flight. Generally, as airspace becomes more crowded, visibility and cloud ceiling requirements increase to allow air crews more time and opportunity to see and avoid other aircraft. Additionally, more complex airspace requires more equipment, more communication, and higher pilot qualifications.

Under IFR, air traffic control provides adequate separation between IFR flights through the use of radar and radio communications. When conditions allow IFR and VFR flights to mix, the “see-and-avoid” methodology is still required of both IFR and VFR flights to keep IFR and VFR aircraft separated.
The FAA ensures that the see-and-avoid concept works by designating different classes of airspace, each of which has its own requirements. The two broad categories of airspace, controlled and uncontrolled, are explained below.

Controlled Airspace

Controlled airspace is a generic term that covers the different classifications of airspace (A, B, C, D and E) as defined by the FAA in the 1993 redesignation of our nation’s airspace. A basic depiction of the types of airspace found in the national airspace system is shown in **Exhibit 2-8**. The following sections define the controlled airspace classifications and operating requirements.

Class A – Airspace at or above 18,000 feet mean sea level (MSL) and up to 60,000 feet MSL, unless otherwise designated, is considered Class A. All aircraft within Class A airspace must operate under IFR, and are under positive control of air traffic control (ATC). All aircraft operating in Class A airspace must have a radio and a transponder, a device that helps identify the aircraft on radar and informs air traffic control of the aircraft’s altitude.

Class B – Class B airspace typically extends from the ground level to 10,000 MSL at the nation's busiest commercial airports. The configuration of each Class B airspace area is tailored to the individual airport and consists of a surface area and two or more layers intended to protect approach and departure paths used by commercial airlines. Like Class A airspace, all aircraft in Class B airspace must have a radio and a transponder.

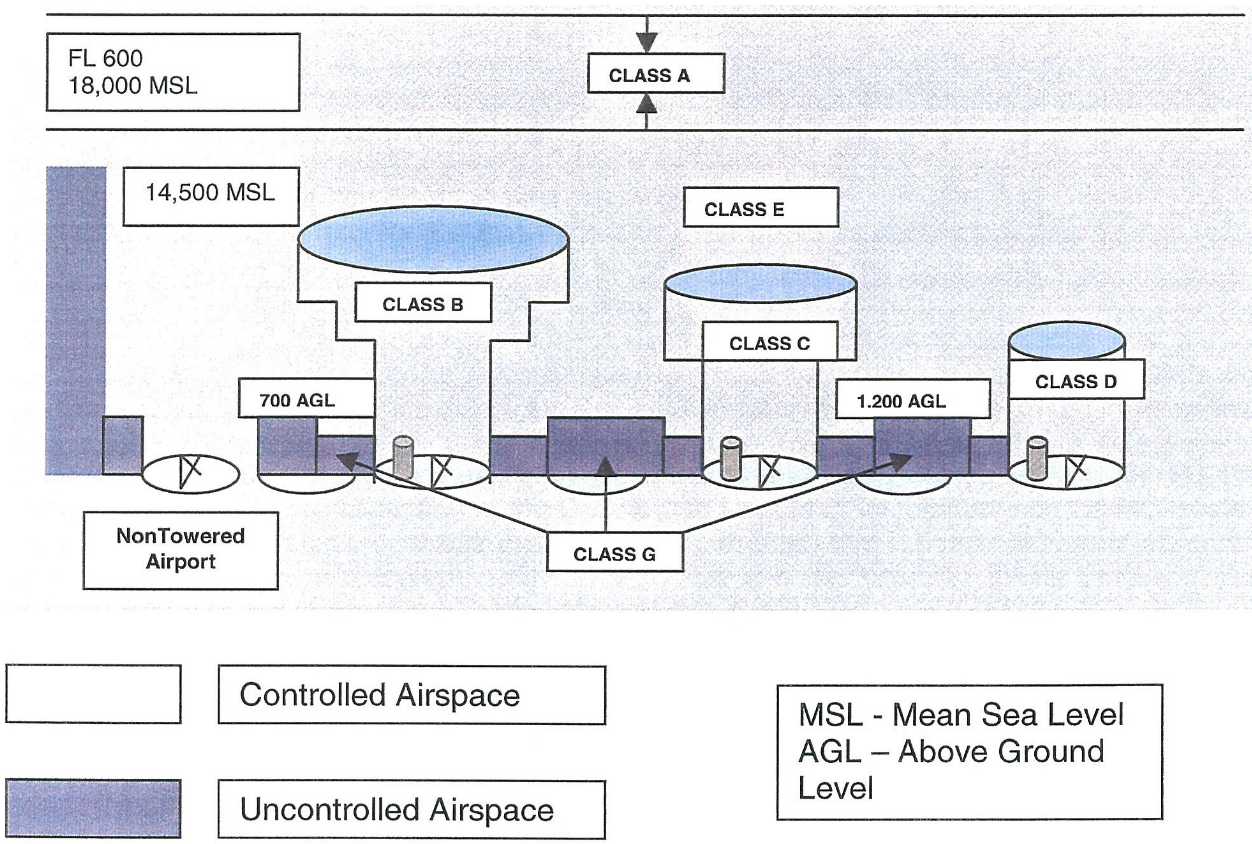
Air traffic control clearance is required for all aircraft to enter Class B airspace. Salt Lake City International Airport is the only airport in Utah with Class B airspace.

Class C – Class C airspace generally surrounds airports which have an operating control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements, but are less busy than airports surrounded by Class B airspace. Class C airspace typically extends from the ground level to 4,000 feet above the airport elevation (above ground level, AGL). Aircraft in Class C airspace must have a radio and transponder. Pilots are required to establish two-way radio communication with air traffic control prior to entering Class C airspace. There is no Class C airspace in Utah.

Class D – Class D airspace exists around those airports that have an air traffic control tower, but have less traffic than airports in Class C airspace. Class D airspace typically extends from the ground level to 2,500 feet AGL. Pilots must establish two-way radio communication with the air traffic control tower, before entering this classification of airspace so that air traffic control can sequence the aircraft for landing. However, an air traffic control tower typically provides aircraft separation only on the runway – not in the Class D airspace. During periods when the control tower is not in operation, Class D airspace reverts to the underlying airspace, typically class E or G. The airports in Utah in Class D airspace are Ogden-Hinckley Airport, Provo Municipal Airport and Hill Air Force Base.

Class E – Most controlled airspace that is not Class A, B, C or D, is designated as Class E airspace. In most places, Class E airspace starts at 1,200 feet AGL (but no lower than 14,500 feet MSL) and goes up to the boundary of the next class of airspace, which is usually Class A at 18,000 feet. Around airports with instrument approaches and instrument approach corridors, a cylinder of Class E airspace starts at 700 feet AGL and continues up to the next class of airspace. At certain airports, the Class E airspace starts at the surface and continues upward to the next class of airspace, in order to provide the more restrictive visibility and cloud clearance requirements of Class E airspace all the way to the surface of the airport. There are places in Utah where Class E airspace begins even higher than 1,200 feet AGL and this is indicated on aeronautical charts.

Exhibit 2-8
National Airspace System



Source: Federal Aviation Administration

Uncontrolled Airspace

Uncontrolled airspace is designated Class G airspace and consists of all the airspace that is not classified as Class A, B, C, D or E airspace. It is generally found beneath Class E airspace. Visibility and cloud clearance limitations are not as strict as controlled airspace since IFR traffic is not expected to operate in this airspace very often.

Special Use Airspace

Special use airspace consists of that airspace where activities must be confined because of their nature or where limitations are imposed upon aircraft that are not part of those activities. Much of the airspace with a special use designation is related to military activities. There are three kinds of special use airspace found in Utah – restricted areas, Military Operations Areas (MOA) and National Security Areas.

Restricted Areas – There are a number of restricted areas in Utah. Restricted areas are established, pursuant to FAR Part 73, to restrict (not prohibit) flight, to permit the user (normally the military) large blocks of unimpeded airspace for their operations. These areas include R-6402 through R-6407, R-6412 and R-6413. Restricted Areas R-6402, R-6404, R-6406 and R-6412 are subdivided for better airspace utilization and control. The using agency for R-6402 through R-6407 (excluding R-6403) is the 6501 Range Squadron at Hill AFB, and the controlling agency is the Salt Lake City Air Route Traffic Control Center (ARTCC). These areas are in continuous use. Collectively, they are called The Utah Test and Training Range (UTTR) by the military. The using and controlling agency for R-6403 is the Tooele Army Depot. The using agency for R-6412 is the Utah National Guard, and the controlling agency is the Salt Lake City Air Traffic Control Tower. This area is designated for intermittent use and is activated by a Notice to Airmen (NOTAM). R-6413 is the Green River restricted area, used by the White Sands Missile Range. Denver Air Route Traffic Control Center is the controlling agency and it is activated by NOTAM.

Non-military access to all restricted areas in Utah, when active, is gained through the controlling agency, and all are designated for VFR and IFR use.

Military Operations Areas – There are four MOAs in Utah. They are designated Gandy, Lucin, Sevier, and Desert. All are located along the western border of Utah. MOAs are airspace areas assigned to segregate certain military activities from IFR traffic, to identify VFR traffic to the user and to make non-participating aircraft aware of these operations. Unlike restricted areas, civilian flights are not prohibited from flying into MOAs when active. Scheduling, coordination and flight procedures for MOAs are established by letters of agreement between local military authorities and concerned air traffic control facilities. MOA's are intermittently used. They are scheduled by the designated military scheduling point and are activated by ATC. They are frequently subdivided for better utilization of the airspace. All of Utah’s MOAs, with the exception of Desert MOA, are scheduled by the 6501 Range Squadron at Hill AFB, and scheduling, coordination and flight procedures are established by letter of agreement with the Salt Lake City ARTCC. Most of Desert MOA is in Nevada and it is used by Nellis AFB.

National Security Area – There is one designated National Security Area in Utah, the Tooele Ammunition Depot. This area is depicted on low altitude enroute, sectional and terminal area charts. Pilots are requested to avoid flights in the designated area below 8,000 feet MSL.

Other Utah Airspace

Military Training Routes (MTRs) – MTRs are air corridors of defined lateral dimensions established for the conduct of military training at speeds in excess of 250 knots. These routes are designated IR or VR to indicate VFR or IFR use. IR routes are usable either in VFR or IFR conditions; VR routes are usable only when VFR. MTRs may be bi-directional or unidirectional. Similar to MOAs, the routes are scheduled by the using military unit via flight plan. Since these routes are below the radar coverage of ATC, the user is responsible to see and avoid other traffic. Entry to the route and exit is reported to the Flight Service Station (FSS) as an advisory to other VFR traffic and for purposes of flight following. Each MTR is plotted on aeronautical charts and is designated to indicate whether the route is above or below 1,500 feet AGL. Most of Utah's MTRs are located in the southern and western parts of the state.

National Parks, Forests, and Refuges – Utah is home to numerous national parks, monuments, and wildlife areas. Because the government regards these areas as noise sensitive, many boundaries of National Park Service areas, U.S. Fish and Wildlife Service areas, and U.S. Forest Service Wilderness and Primitive areas are marked on aeronautical charts. Pilots are requested to maintain a minimum altitude of 2,000 feet above ground level when over these areas.

Skydiving and Parachute Jumping Areas – Skydiving areas are normally activated by NOTAM whenever parachute jumping is planned; however, pilots should use caution. There are additional areas occasionally used for parachuting activities, and these are identified by NOTAM. Skydiving is an FAA-recognized activity and is conducted in accordance with FAR Part 105. Utah has four charted skydiving areas – Tooele Valley Airport, Ogden-Hinckley Airport, Cedar Valley Airport, and General Dick Stout Field Airport in Hurricane.

Chapter Three: Airport Role Analysis

The previous chapter of the Utah Continuous Airport System Plan (UCASP) provided a summary of existing airport facilities, activity levels, and socioeconomic conditions in each airport's service area. This information forms the backbone of the UCASP since subsequent analysis is based upon existing conditions and the data presented in Chapter 2. This chapter continues development of the UCASP by evaluating the roles of Utah's airports. When established, these roles will be used to evaluate the effectiveness of Utah's existing airport system and determine if improvements are needed.

Airport roles are defined differently from a national, state, and local perspective. Historically, Utah has used service levels established by the FAA in the National Plan of Integrated Airport Systems (NPIAS) to define each Utah system airport's role. As a national plan, the NPIAS is used by the FAA to identify aviation facilities of significance to the national air transportation network. The NPIAS defines an airport's role by its service level, and the airport's service level reflects the type of service the airport provides to the nation, state and local community. The service level also reflects the funding categories established by Congress to assist in airport development.

As noted in the previous chapter, the service levels used by the NPIAS include the following:

- **Primary (PR)** - Primary airports are public use airports receiving scheduled airline passenger service, enplaning 10,000 or more passengers per year.
- **Commercial Service (CM**) - Commercial Service airports are public use airports which receive scheduled airline passenger service and which enplane 2,500 or more passengers annually.
- **Reliever (RL) -** Reliever airports are general aviation or commercial service airports which serve to relieve congestion for a Primary airport by providing general aviation and non-airline commercial operators with another access to the community.
- **General Aviation (GA) -** General Aviation airports are either publicly or privately owned public use airports that primarily serve general aviation users.

The NPIAS for years 2007-2011 includes 34 of the 47 airports in the Utah Airport System. The service level classification of these 34 airports includes three Primary, four Commercial Service, three Reliever, and 24 General Aviation airports. The NPIAS service level for each Utah airport was presented in the previous chapter.

While these service levels are useful to the FAA in making funding decisions, they do not adequately describe the function or role of each airport in the Utah State System, especially those in the General Aviation category. The 25 Utah General Aviation airports do not serve the same function or role, nor should they be designed to do so.

These airports have varying levels of activity, facilities, and services and meet a wide variety of needs. Some General Aviation airports are used extensively by large business-class aircraft, others are used primarily by small aircraft for recreational purposes, and others are used for emergency medical air transport. The FAA's NPIAS service levels do not relate to the manner in which airports function within the state system. Inclusion in NPIAS simply means that an airport has some national significance and is eligible to receive FAA Airport Improvement Program (AIP) grants. The NPIAS service level classification provides little guidance on the types of facilities that should be developed and/or maintained to meet other functions. Both federal and state funding for airport improvements is extremely limited; therefore, it is essential that airports in Utah be developed to the extent necessary to perform their identified roles, and that state funding be applied in a manner to support these roles.

Typically, state-specific roles are developed through consideration of many different factors including geography, demographic characteristics, economic development potential, and the demand for aviation services. The combination of these factors determines the role that each airport plays within a defined system, such as the Utah Airport System. The Utah-specific roles developed in this chapter are tools for use by the Utah Division of Aeronautics (UDOA) and airport sponsors for long-term planning and evaluation of the performance of Utah's Airport System. These roles supplement rather than replace the FAA NPIAS service levels and provide a broader opportunity to view the state's airport system in its full context.

AIRPORT ROLE CONSIDERATIONS

There are many factors that can be considered in the development of state-specific airport roles. Typically the factors are selected in response to the goals established for an airport system. Certainly, airports and airport systems must be developed to meet certain basic goals, such as serving transportation needs, but there are also other important goals that can be achieved through the development of an effective airport system.

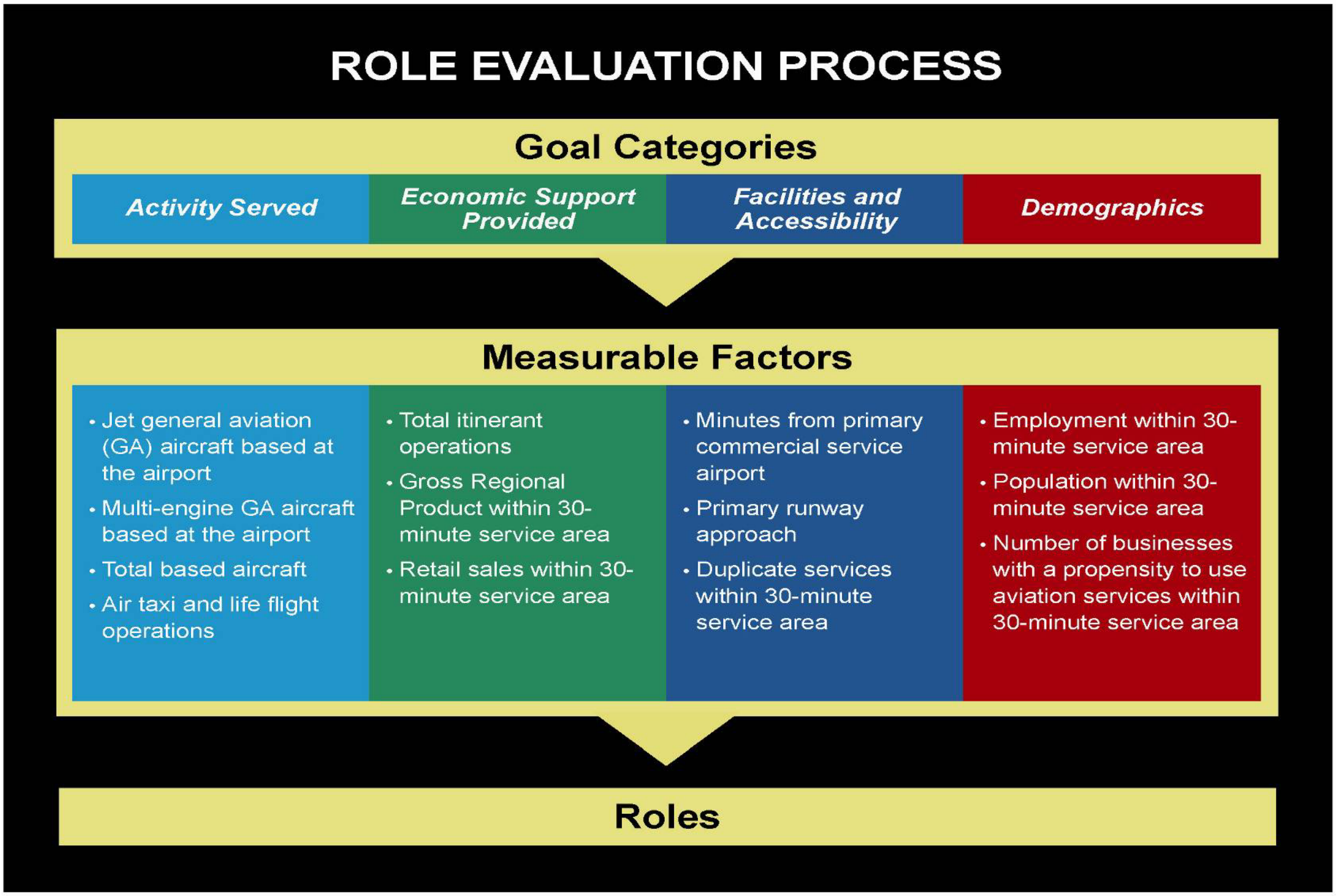
Goals that are important to the development of an effective state airport system include the following:

- Provide airports with adequate facilities and services to serve the existing and projected levels of aviation activity or demand
- Provide economic support to regional, and local businesses by developing airports that provide sufficient access to the national air transportation system
- Provide facilities that are accessible from the ground and air to meet the demands of users
- Provide airports to serve population and economic centers

These goals, summarized as goal categories, were used in the process to identify specific measurable factors that influence the role an airport performs within the system.

Exhibit 3-1 depicts the process in which the goal categories were related to specific measurable factors, which are discussed in more detail in a subsequent section of this chapter. The resulting measures were then used to determine the roles of airports within the existing Utah Airport System.

Exhibit 3-1
Role Evaluation Process



Measurable Factors

Through extensive discussion with the Technical Advisory Committee, review of other comparable statewide airport systems, and analysis of available data, specific measurable factors were selected to evaluate the role of each airport in the Utah Airport System. These measurable factors were chosen because they are the most significant determinants in establishing the role or function of an airport within the System. By using factors that are measurable, the determination of roles becomes a quantitative process rather than a subjective, qualitative process.

The following summarizes the measurable factors used within the four goal categories previously identified:

Activity Served

- Jet GA aircraft based at the airport
- Multi-engine GA aircraft based at the airport
- Total based aircraft
- Air taxi and life flight operations

Economic Support Provided

- Total itinerant operations
- Gross Regional Product within 30-minute service area
- Retail sales within 30-minute service area

Facilities and Accessibility

- Minutes from primary commercial service airport
- Primary runway approach
- Duplicate services within 30-minute service area

Demographics

- Employment within 30-minute service area
- Population within 30-minute service area
- Number of businesses with a propensity to use aviation services within 30-minute service area

In general terms, each airport was scored separately for each measurable factor. The maximum score for each airport for each measurable factor was 10, with the scores for each airport stratified based on the range of data identified for each factor. For example, in some cases data were numeric and a statistical method could be used to assign scores. This is true for based aircraft. For other factors, the data were limited to only several choices. For example, the type of approach to the runway was defined as visual, non-precision, or precision. Therefore, each measurable factor was analyzed separately to determine the appropriate scoring process. The scoring process and data analyzed for each factor is discussed below.

It is important to note that for purposes of the 30-minute service area evaluations, Geographic Information System (GIS) analyses were completed to determine the drive time, or service area, for each system airport. A service area of 30 minutes was chosen to correspond to the FAA's use of 30-minute drive times in its determination of eligibility for airports in the NPIAS.

A base map of Utah's road system was obtained from Environmental Systems Research Institute (ESRI) *Data and Maps 2007* for use in the GIS analysis. The quantity and quality of the roads leading to each airport was considered in the GIS analysis, and associated speed limits were assigned based on the type of road (primary highway, secondary or connecting road, or local/rural road). Using posted speed limits and road network, a 30-minute service area was developed for each of Utah's airports.

The measurable factors within each goal category are discussed below. Specific sources for the data and the range of data results for each measurable factor are also provided.

Activity Served

Airports were evaluated based on the levels and types of aviation activities currently served at each facility. In general, an airport's total number of based aircraft and the number of based multi-engine and jet aircraft provide an indication of the role that the airport plays. Given the rural nature of much of Utah, use of the airport by medical flight operators is one of the most important indicators of an airport's role. Within the activity served goal, the following factors were measured and rated for each system airport:

<u>Jet GA aircraft based at the airport</u> – Airports were rated based on the number of based GA jets identified in the airport inventory conducted as part of the study. The presence of based jet aircraft at an airport indicates that the airport probably has high activity levels and significant demand for aviation services because these aircraft require high service levels and are typically used for business activities. Salt Lake City International has the most based GA jet aircraft with a total of 17. Numerous Utah airports have no based GA jet aircraft. Scores were assigned to each airport based on the total number of based GA jet aircraft, with the highest score being a 10. Airports with based GA jet aircraft between 1 and 17 were given a score relative to the range of data. Airports with no based jet aircraft were given a score of 0.
Source: Airport inventory form, UDOA

<u>Multi-engine GA aircraft based at the airport</u> – Airports were rated based on the number of based multi-engine aircraft identified in the airport inventory effort conducted as part of the study. Similar to based GA jet aircraft, multi-engine GA based aircraft also indicate that the airport is supporting higher activity levels by more sophisticated aircraft. Salt Lake City International also has the highest number of based multi-engine GA aircraft with 69, followed by Ogden-Hinckley Municipal with 34. Numerous Utah airports have no based multi-engine aircraft. Airports were scored from 0 to 10, using a statistically valid process to relate the range of data (in this case based multi-engine aircraft) to the available scores (0 to 10). Airports with no based multi-engine GA aircraft were given a score of 0.
Source: Airport inventory form, UDOA

<u>Total based aircraft</u> – Airports were rated based on the total number of permanently based aircraft identified in the airport inventory effort conducted as part of the study. The number of total based aircraft at an airport typically correlates to the level of

activity experienced, whether by small recreational aircraft or large aircraft. Total based aircraft can easily be measured at an airport for an accurate count. Salt Lake City International had the highest number of total based aircraft at Utah airports with 322, followed by 292 at Ogden-Hinckley Municipal. There were a total of 2,326 based aircraft in Utah when the inventory was conducted in December 2006. A statistically valid process was used to correlate total based aircraft to the range of scores from 0 at several airports that had no based aircraft, to 10 at airports that had over 100 based aircraft.
Source: Airport inventory form, UDOA

<u>Air taxi and medical flight operations</u> – Airports were rated based on the total number of air taxi and medical flight operations identified by UDOA as part of this study effort. The total number of air taxi and medical flight operations is considered an important factor in the evaluation of the type of activity served in a state such as Utah, because of the many rural and isolated areas where this type of activity is critical. Each life flight was given a weighting to represent the importance of life flight in comparison to air taxi operations. In 2006, the total air taxi and life flight operations ranged from 10,411 at Salt Lake City International, followed by 1,582 at Provo Municipal, to 5 at Junction. Scores ranged from 1 at many airports to 10 at five airports that had the highest levels of life flight and air taxi activity.
Source: UDOA, IHC Life Flight, University of Utah Air Med

Economics

Airports in Utah are vital to the economy. As a result of the important role that airports in Utah play in supporting and leading economic growth, it is imperative examine factors that could help establish the role that each airport has in supporting the state's economy. The following factors were considered in the economics goal category:

<u>Total itinerant operations</u> – The total number of itinerant operations is considered to be an indicator of economic activity in an area since the area attracts aviation users from outside the local region. The total number of itinerant operations for 2006 was obtained from UDOA as part of the inventory effort for this study. Total itinerant operations ranged from 450,500 at Salt Lake City International (which includes commercial airline flights), followed by 62,197 at Provo Municipal, to 230 at Junction. Scores ranged from 1 at many airports with less than 2,500 itinerant operations to 10 at airports with more than 20,000 itinerant operations.
Source: UDOA

<u>Gross Regional Product (GRP) within 30-minute service area</u> – Using the 30-minute service areas defined above, the GRP within each service area was calculated. GRP is defined as the market value of all goods and services produced within a specific area over a given period of time. Areas with higher GRP are assumed to represent areas with higher economic activity, indicating a potential for greater demand of aviation services. GRP data for the year 2005 was obtained from the U.S. Department of Commerce for each county in Utah. Because the data is only

available at the county level, correlation of GRP data to population by Census block group was necessary to provide a more detailed analysis within each airport's service area. The GRP data was evaluated to assign proportionate economic value to each service area. GRP by service area ranged from $49.8 billion for Skypark to approximately $627,100 at Halls Crossing. Airport service areas with less than $1.0 billion in GRP were given a rating of 1, while airport service areas with a GRP of over $11.0 billion were given a rating of 10.
Source: ESRI Data & Maps 2007, U.S. Department of Commerce

<u>Retail Sales within a 30-minute service area</u> – Similar to GRP, retail sales data were evaluated for each airport's 30-minute service area and evaluated using the same methodology. Data were collected on total retail sales by county for fiscal year 2005. Retail sales indicate economic activity as a whole within the county, considering both local and non-local sales. In areas where there are limited retail opportunities people must travel beyond their local community to a nearby community to make retail purchases. This measure indicates the demand for services in a specific community. Retail sales by service area ranged from $17.5 billion for Skypark to approximately $141,400 at Halls Crossing. Airport service areas with less than $500.0 million in retail sales were given a rating of 1, while airport service areas with retail sales of more than $6.0 billion were given a rating of 10.
Source: ESRI Data & Maps 2007, Woods and Poole Inc., 2006 (socioeconomic data)

Facilities and Accessibility

Airports were also rated based on their physical facilities and accessibility. Airports with instrument approach capabilities, precision or non-precision, have greater accessibility and tend to play more essential roles within the airport system. This is even more important when the communities are located farther away from airports that provide equal or better access, including commercial airline service. The following factors were measured for the facilities and accessibility goal category:

<u>Minutes from a Primary Airport</u> – The proximity of each Utah airport to those classified by the FAA as Primary Airports (Commercial Service Airport with more than 10,000 annual enplanements) was evaluated. Primary airports typically serve a larger service area simply because of the more robust facilities and services available, including commercial airline service. The more distant an airport is from a Primary Airport, the more need there is for higher level facilities and services to accommodate more sophisticated general aviation activity. Using GIS analysis, the distance in minutes from each airport to the nearest Primary Airport was calculated. The analysis extended beyond the Utah borders to consider such airports located in neighboring states. Those airports that were further away were given a higher score than those that are closer to a Primary Airport. Halls Crossing is located the most distant from any Primary Airport, and has a 277-minute drive time to reach a Primary Airport facility. All existing Primary Airports received a score of 0 since they serve as the measurement point.
Source: Wilbur Smith Associates, ESRI Data & Maps 2007

Primary runway approach – Airports were evaluated on the basis of the most significant approach published for the primary runway at the airport. The standard approach classifications of precision, non-precision, and visual were used for this evaluation. For this analysis, airports with a precision approach were scored highest with a score of 7, airports with a non-precision approach were given a score of 3, and those with a visual approach were given a score of 1. Only four of Utah's airports were noted to have precision approaches.
Source: FAA U.S. Terminal Procedures, Wilbur Smith Associates

Duplicate services within 30-minute service area – Utah's system of airports is diverse; however, when analyzed as a whole, the 30-minute service areas of individual airports sometimes overlap. These overlapping service areas indicate duplication of accessibility and services. Airports with little or no duplication of service provide that community with access to only one aviation facility. Those airports that serve as an FAA-designated reliever airport were not included or considered to have duplicate services, since their role is to relieve larger commercial airports. These airports must be located in the same metropolitan area in order to serve this function. For this factor, airports were rated on whether they had no duplication (score of 10), duplication with one airport (score of 5), or duplication with two or more airports (score of 0). More than 25 of Utah's airports have no overlap in service areas. Along the Wasatch Front, but also in other areas of the state, three airports have significant overlaps with more than two other airports.
Source: Wilbur Smith Associates, ESRI Data & Maps 2007

Demographics

Demand for aviation is typically correlated with demographic factors such as population and employment. Areas with higher population and employment typically require higher levels of aviation facilities to serve the resulting economy. In terms of employment, the types of businesses in an area can have a significant impact on the level of aviation services needed to service a particular area of the state. Based on extensive analysis, the types of businesses that have the propensity to use aviation can be located to determine where high concentrations exist. The following factors in the demographics goal category were measured in the process:

Employment within 30-minute service area – The employment levels in each airport service area represent the number of potential businesses that could rely on aviation, either as a user or as a business that is reliant on business travelers or tourists visiting their location. Businesses also utilize aviation services such as air cargo to transport goods or packages. Employment data were obtained from Woods and Poole, and similar to other GIS analyses, were assigned to block group level Census data for analysis of each 30-minute service area. This data was analyzed to proportionately assign appropriate employment statistics to each service area. Employment data for each service area ranged from nearly 623,500 employees near Skypark to less than 20 employees near Halls Crossing. Those service areas with employment less than 20,000 were given a rating of 1, while

those with employment greater than 300,000 were given a rating of 10.
Source: Woods and Poole, 2006 (socioeconomic data), Wilbur Smith Associates

Population within 30-minute service area – The current population in the service area of an airport represents the number of potential aviation users for the airport. The same process used to evaluate employment within each 30-minute service area was utilized to evaluate population in the airport service area. Population within a 30-minute drive ranged from over 1.3 million for Skypark to 41 at Halls Crossing. Service areas with a population of less than 30,000 were given a rating of 1, while service areas with a population of greater than 300,000 were given a rating of 10.
Source: Woods and Poole, 2006 (socioeconomic data), Wilbur Smith Associates

Number of businesses with propensity to use aviation services within 30-minute service area – Throughout Utah, the number of businesses that have the propensity to use aviation services were located through use of a business listing company. The business types selected were based on detailed analysis of the results of business surveys conducted by Wilbur Smith Associates over the past 10 years. The business listing company compiled the data for these business types which were located in the GIS analysis. The 30-minute service areas for each airport were overlaid on the GIS mapping to determine the number of businesses within the area that have the propensity to use aviation services. The more businesses with the propensity to use aviation services within each airport's service area, the higher the rating. This measure ranged from over 1,350 for Skypark to zero for several System airports. The scoring ranged from 0 for those with no identified businesses to 10 for those service areas with more than 500 businesses identified as having the propensity to use aviation services.
Source: InfoUSA, 2006, Wilbur Smith Associates

Weight Assignment for Goal Categories

Through discussion with UDOA staff, it was determined that all four of the goal categories were not of equal importance in the evaluation of each airport's role in the Utah Airport System. To reflect the importance of a goal category, weights were assigned to each goal category. The scores for the measurable factors within each category were summed. Airports with a higher score reflect a more important role in the system.

The four goal categories were scored from high to low, and are presented in this in order as follows:

- Demographics
- Activity Served
- Economic Support Provided
- Facilities and Accessibility

Results of Evaluation

The measurable factor scores for each goal category were summed to determine each airport's initial score, prior to weighting. The sum of the category scores for each airport, including the weight, produced the results of the role evaluation. The final scores for all airports were evaluated to determine where natural breaks in the scoring process occurred. These natural breaks were used to separate the airports into categories for role assignment.

With the airports scored based on the goal categories and measurable factors, the number of roles for the Utah Airport System was considered next. Roles are needed to determine the facility and service standards that should be used to evaluate the adequacy of Utah's Airport System and how the system is functioning to meet its objectives.

As previously noted, the FAA no longer uses a standard classification system other than the delineation between commercial airports and general aviation airports. To further classify airports, especially as they relate to design, the FAA groups airports based on the type of aircraft that regularly operate at the airport. This classification system is referred to as Airport Reference Codes (ARCs). This system is discussed in more detail in a subsequent section.

To develop a role for each airport, based on the results of the analysis, the airport scores were reviewed. Airports were separated into five tiers based on the number of standard deviations above or below their respective scores relative to the average score. Definitions for the five roles were developed based on a review of other state system plans and the FAA system. The five roles serve as the baseline, with possible refinement as the evaluation of the system is conducted in later tasks. The five roles are identified in the following section.

AIRPORT ROLE DEFINITIONS

Based on a review of other state aviation and FAA classifications, as well as the roles the airports play in Utah's airport system, five airport roles were developed. The five UCASP airport roles are defined as follows:

- **International Airports:** serve domestic and international commercial airlines
- **National Airports:** serve commercial airlines and classified by FAA as Primary Commercial Service
- **GA-Regional Airports:** serve wide range of large GA aircraft users
- **GA-Community Airports:** serve smaller GA aircraft and local business activities
- **GA-Local Airports:** serve limited GA functions, including emergency and recreational use, in smaller communities and remote areas

Table 3-1 lists airports alphabetically by the name of the associated city and classifies each into one of the five roles listed above. **Exhibit 3-2** presents the information graphically with the five roles for Utah's aviation system. This represents the initial airport roles that will be used as a baseline for analysis of the system. More detailed definitions are provided below as they relate specifically to Utah's Airport System.

International – International Airports (International) serve a significant national, state and local role. In terms of the Utah Airport System, International Airports provide a conduit to the global economy and essential commercial airline access to the region. Only one airport in Utah currently serves this role in providing access to global markets and serving domestic and international commercial airlines. The significance of this service and the ability of this airport to accommodate the highest level of commercial service and general aviation activity are of utmost importance to the entire state. This airport serves the largest population center in the state, but is utilized by aviation providers throughout Utah and the world.

National – National Airports (National) enable the local, regional, and statewide economies to have access to and from the national and global economy. All Primary Airports (except for the single International Airport) are included within this role. National Airports accommodate a high level of commercial service and general aviation activity and serve major population centers or tourism destinations in the state.

General Aviation Regional – General Aviation Regional Airports (GA Regional) serve and support the local and regional economies and connect them to the state and national economies. Regional airports serve primarily general aviation activity, with a focus on serving business activity including jet and multi-engine aircraft. FAA Reliever airports are categorized as Regional. These airports support the system of International and National airports and should provide significant coverage to the state's population.

Table 3-1
Initial Airport Role Summary

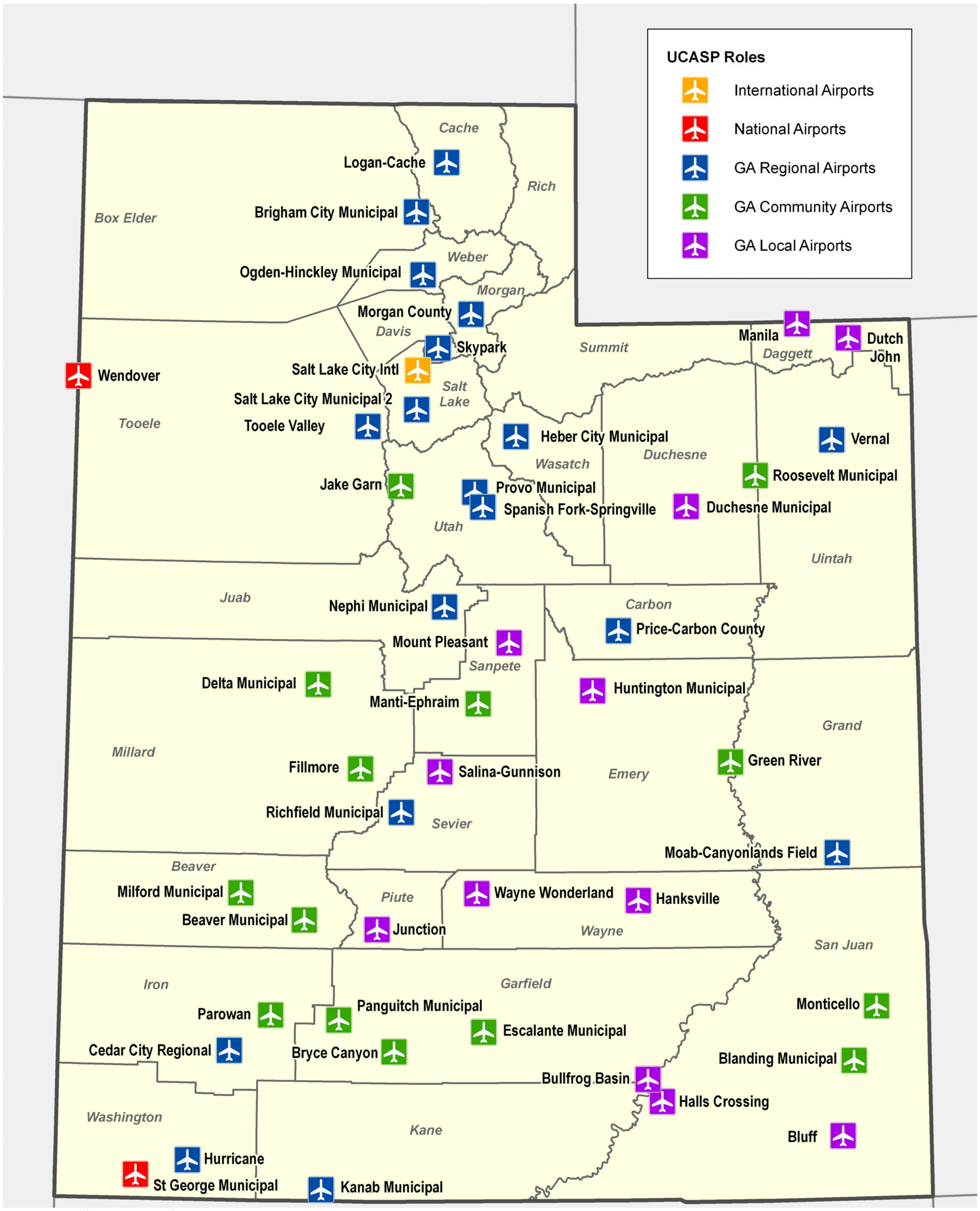
Associated City	Airport Name	FAA ID	UCASP Role	FAA Role
International Airports				
Salt Lake City	Salt Lake City International	SLC	International	PR
National Airports				
St George	St George Municipal	SGU	National	PR
Wendover	Wendover	ENV	National	PR
Regional Airports				
Bountiful	Skypark	BTF	Regional	GA non-NPIAS
Brigham City	Brigham City Municipal	BMC	Regional	GA
Cedar City	Cedar City Regional	CDC	Regional	CM
Heber	Heber City Municipal	36U	Regional	GA
Hurricane	Hurricane	1L8	Regional	GA non-NPIAS
Kanab	Kanab Municipal	KNB	Regional	GA
Logan	Logan-Cache	LGU	Regional	GA
Moab	Moab-Canyonlands Field	CNY	Regional	CM
Morgan	Morgan County	42U	Regional	GA non-NPIAS
Nephi	Nephi Municipal	U14	Regional	GA
Ogden	Ogden-Hinckley Municipal	OGD	Regional	RL
Price	Price-Carbon County	PUC	Regional	GA
Provo	Provo Municipal	PVU	Regional	GA
Richfield	Richfield Municipal	RIF	Regional	GA
Salt Lake City	Salt Lake City Muni 2	U42	Regional	RL
Spanish Fork	Spanish Fork-Springville	U77	Regional	GA
Tooele	Tooele Valley Airport	TVY	Regional	RL
Vernal	Vernal	VEL	Regional	CM
Community Airports				
Beaver	Beaver Municipal	U52	Community	GA
Blanding	Blanding Municipal	BDG	Community	GA
Bryce Canyon	Bryce Canyon	BCE	Community	CM
Delta	Delta Municipal	DTA	Community	GA
Eagle Mountain	Jake Garn	17U	Community	GA non-NPIAS
Escalante	Escalante Municipal	IL7	Community	GA
Fillmore	Fillmore	U19	Community	GA non-NPIAS
Green River	Green River	U34	Community	GA
Manti	Manti-Ephraim	41U	Community	GA
Milford	Milford Municipal	MLF	Community	GA
Monticello	Monticello	U43	Community	GA
Panguitch	Panguitch Municipal	U55	Community	GA
Parowan	Parowan	1L9	Community	GA
Roosevelt	Roosevelt Municipal	74V	Community	GA

Table 3-1, Continued
Initial Airport Role Summary

Associated City	Airport Name	FAA ID	UCASP Role	FAA Role
Local Airports				
Bluff	Bluff Airport	66V	Local	GA non-NPIAS
Duchesne	Duchesne Municipal	U69	Local	GA
Dutch John	Dutch John	33U	Local	GA non-NPIAS
Glen Canyon Natl. Rec. Area	Bullfrog Basin	U07	Local	GA non-NPIAS
Halls Crossing	Halls Crossing	U96	Local	GA
Hanksville	Hanksville	HVE	Local	GA
Huntington	Huntington Municipal	69V	Local	GA non-NPIAS
Junction	Junction	U13	Local	GA non-NPIAS
Loa	Wayne Wonderland	38U	Local	GA
Manila	Manila	40U	Local	GA non-NPIAS
Mount Pleasant	Mount Pleasant	43U	Local	GA non-NPIAS
Salina	Salina-Gunnison	44U	Local	GA non-NPIAS

PR – Primary Commercial Service, CM – Commercial Service, GA – General Aviation
Source: UDOA, Wilbur Smith Associates, 2006

Exhibit 3-2
UCASP Airport Roles



Source: UDOA, Wilbur Smith Associates, 2006

General Aviation Community – General Aviation Community (GA Community) airports serve a supplemental contributing role for the local economy. Community airports focus on providing aviation access for small business, recreational, and personal flying activities throughout Utah. These airports are located throughout the state to serve rural needs and provide another connection to the state's transportation infrastructure.

General Aviation Local – General Aviation Local (GA Local) airports play a limited role in contributing to the local economy. These airports are considered to have local importance, primarily serving recreational and personal flying activities.

In subsequent chapters, each airport will be analyzed to determine its role within the Utah Airport System. This includes identification of airports in close proximity to other airports that provide duplicate services or areas of the state where services are insufficient to meet demand. The identification of airports within a region where aviation services are duplicated may dictate moving an airport to a lower role. This subsequent process also evaluates if more advanced aviation services are needed to serve an area. This may indicate that a higher role is needed for a particular airport. An underserved area could indicate the need for a different category of airport, or possibly development of a new airport.

It is important to note this role analysis is based on a "snapshot in time" of present conditions and is only a starting point in Utah's system planning process. Based on analyses that are conducted in subsequent steps, some airports may be identified to serve a greater role in the future for the system to function at its highest level.

FACILITY AND SERVICE OBJECTIVES

Once system airports are grouped into roles, it is desirable to identify facilities and services that should be available at airports serving that role. Facility and service objectives delineated in this section are merely objectives. It is possible that airports included in, or recommended for, an increased role in later analyses may be unable to comply with certain facility and service objectives. An airport's inability to meet the facility and service objectives for its role does not necessarily preclude that airport from performing that role within the system. However, it is considered in the analysis of options to rectify system deficiencies. The objectives presented are minima, and airports with facilities exceeding the objectives meet the objective. Reduction or removal of facilities and services is not considered in this analysis.

Facility and service objectives were not developed for International Airports. At this time, only Salt Lake City International Airport is classified as International. UDOA will work with Salt Lake City International to define objectives based on the airport's current planning efforts to provide consistency between the UCASP, FAA planning guidelines, and capital development at Salt Lake City International Airport.

FAA's Airport Reference Code (ARC) System

In the ARC system, the FAA relates airport design criteria to the operational and physical characteristics of the most demanding aircraft, or design aircraft, intended to regularly operate at an airport. The ARC has two components related to the airport design aircraft. The first component, depicted by a letter, is the aircraft approach category; it is related to the aircraft approach speed. The second component, depicted by a Roman numeral, is the airplane design group; it relates to the airplane wingspan. Generally, the size and characteristics of an airport's runway and other facilities are related to aircraft approach speed, airplane wingspan, and designated or planned instrument approach visibility minimums. **Table 3-2** provides a list of common airplanes with their approach category and design group as specified by FAA standards.

Table 3-2
Aircraft Classification Standards

FAA Aircraft Approach Categories		
Approach Category	**Approach Speed (Knots)**	**Typical Aircraft Type**
A	Less than 91	Beech Bonanza, Cessna 150, Cessna 172
B	91 but less than 121	King Air, Citation I & II, Falcon 50
C	121 but less than 141	Lear 25, Gulfstream III, B-727, B-737, B-757
D	141 but less than 166	Gulfstream II and IV, B-747, B-777

FAA Wingspan Design Groups		
Design Group	**Wingspan (Feet)**	**Typical Aircraft Type**
I	Less than 49	Beech Baron 58, Cessna 150, Cessna 172
II	49 but less than 79	Beech King Air C-90, Gulfstream I, Falcon 50
III	79 but less than 118	B-727, B737, DC-9
IV	118 but les than 171	A-300, B-757, B-767, L-1011, DC-10
V	171 but less than 197	B-747, B-777
VI	197 but less than 262	Lockheed C-5A

Source: Federal Aviation Administration

Table 3-3 identifies the minimum facility and service objectives for each of the other four airport roles.

Table 3-3
Facility and Service Objectives

NATIONAL AIRPORTS	
AIRPORT CRITERIA	**MINIMUM OBJECTIVES**
ARC:	C-III or Design Aircraft
RUNWAY LENGTH:	Accommodate 75% of large aircraft at 90% useful load
RUNWAY WIDTH:	To Meet ARC
RUNWAY STRENGTH:	Single-wheel gear – 60,000 lbs.; equivalent for dual wheel
TAXIWAY:	Full Parallel
NAVIGATIONAL AID:	Precision Approach
VISUAL AIDS:	MALSR, GVGIs
LIGHTING:	MIRL, Beacon, Windsock
WEATHER:	Automated Weather Reporting
SERVICES:	Phone Restrooms FBO – Full service Maintenance facilities & hangar 5,000 sq. ft. On-site rental car Perimeter fencing, controlled access
FACILITIES:	Modern Terminal Hangars – 75% of based fleet & 25% of overnight aircraft Apron – 25% of based fleet & 75% for transient Auto Parking – Per master plan
GENERAL AVIATION REGIONAL AIRPORTS	
AIRPORT CRITERIA	**MINIMUM OBJECTIVES**
ARC:	C-II or Greater
RUNWAY LENGTH:	Accommodate 75% of large aircraft at 60% useful load
RUNWAY WIDTH:	To Meet ARC
RUNWAY STRENGTH:	Single-wheel gear – 30,000 lbs., equivalent for dual wheel
TAXIWAY:	Partial Parallel
NAVIGATIONAL AIDS:	Non-Precision Straight-In Approach
VISUAL AIDS:	GVGIs, REILs
LIGHTING:	MIRL, Beacon, Windsock
WEATHER:	Automated Weather
SERVICES:	Phone Restrooms FBO – Limited service Maintenance facilities – Limited service On-site courtesy car Perimeter fencing
FACILITIES:	Terminal with appropriate facilities Hangars – 60% of based fleet & 25% of overnight aircraft Apron – 40% of based fleet & 50% for transient Auto Parking – Equal to 33% of based aircraft Food – Limited service restaurant or vending service

GENERAL AVIATION COMMUNITY AIRPORTS	
AIRPORT CRITERIA	**MINIMUM OBJECTIVES**
ARC:	B-II or Greater
RUNWAY LENGTH:	Accommodate 75% of small airplanes
RUNWAY WIDTH:	Minimum 75'
RUNWAY STRENGTH:	Single-wheel gear – 12,500 lbs.
TAXIWAY:	Turnarounds & Connectors
NAVIGATIONAL AIDS:	Non-Precision Approach
VISUAL AIDS:	GVGIs, REILs
LIGHTING:	MIRL, Beacon, Windsock
SERVICES:	Phone Restrooms FBO – Limited service On-site courtesy car Perimeter fencing
FACILITIES:	Hangars – 50% of based fleet & 25% of overnight aircraft Apron – 50% of based fleet & 25% for transient Auto Parking – Equal to number of based aircraft Food – vending service Pilots Lounge
GENERAL AVIATION LOCAL AIRPORTS	
AIRPORT CRITERIA	**MINIMUM OBJECTIVES**
ARC:	A-I
RUNWAY LENGTH:	Maintain Existing
RUNWAY WIDTH:	Maintain Existing
RUNWAY STRENGTH:	Single-wheel gear – 12,500 lbs.
TAXIWAY:	Connector and/or Turnarounds
LIGHTING:	Reflectors or LIRL, Beacon, Windsock
SERVICES:	Phone Restrooms Perimeter fencing
FACILITIES:	Auto Parking Pilots Lounge

Source: UDOA, Wilbur Smith Associates, 2006

SUMMARY

This chapter has set forth the initial roles that are used in subsequent analyses to evaluate the adequacy of Utah's Airport System. With the airport roles and the facility and service objectives identified, the ability of the System to meet the needs of Utah is analyzed in the next chapter.

Chapter Four: Forecasts

Most airports included in the UCASP prepare forecasts in conjunction with either master plan or airport layout plan updates. These individual airport forecasts examine factors in detail that contribute to the growth or decline of aviation activity within the airport service area. The UCASP takes a broader view and projects future aviation activity statewide by summing the forecasts for individual airports.

Forecasts of commercial and general aviation activity, presented in this chapter, project the level of activity expected at Utah airports over the next 20 years. These activity projections assist in the verification of the roles identified in the previous chapter for each study airport. The projections also help to determine whether existing facilities are adequate to accommodate future aviation demand.

The 20-year forecast period is 2006 through 2026 and includes the following components of aviation activity in Utah:

- Annual passenger enplanements
- Annual commercial and air taxi operations
- Based general aviation aircraft
- Annual general aviation operations
- Annual military operations
- Air cargo activity

APPROACH TO FORECASTING

Forecasts at the individual airport level delve into the specific functions that drive aviation demand. Typically, these include a close examination of trends in population, employment, and income growth. Additionally, specific economic activities that may lead to a change (positive or negative) in demand for either commercial air service or general aviation would be examined. An airport's ability to serve current and projected demand for aviation services and its competitive position in relation to other nearby airports is also considered. For statewide forecasts, the perspective is a "big-picture" overview of current and future aviation activity in Utah. Statewide forecasts are developed to estimate the change in aviation activity at Utah airports over the next 20 years. Because statewide forecasts are intended to provide a general indication of future aviation activity in the State, projected population growth rates at the county level from the Utah Governor's Office of Planning and Budget were used as the basis for development of aircraft operations, based aircraft, passenger enplanements, and air cargo forecasts for each system airport.

UTAH AVIATION TRENDS

Aviation activity in Utah reflects a mix of economic activities within the state and nation. National trends impacting general aviation and commercial air service have a significant effect on local aviation demand. Local demographic and economic factors and trends also influence aviation demand. Utah has diverse economic regions that support different types of aeronautical activities. The Wasatch Front region, spanning from Utah County on the south to Weber County on the north, supports the largest concentration of business aviation, military operations, and commercial aviation activity. Airports in the remaining more sparsely populated areas of the state support extensive general aviation activities and limited air taxi and commercial service activity. Recent increased interest in energy development near the cities of Richfield, Price and Vernal has also sparked a current spike in demand for aviation services.

NATIONAL TRENDS IMPACTING UTAH AVIATION

As indicated, forecasts of aviation activity at Utah's system of airports are based on projected population growth rates in each county. However, certain national shifts within the airline industry and business aviation will also impact aviation in Utah over the forecast period. The most significant include:

- The ability of the legacy carriers to effectively compete with the low cost carriers through further reductions in non-fuel operating costs, achievement of a fuel efficient fleet, and a route system that emphasizes the highest yield in profitable markets.

- Continued retirement of the existing turboprop fleet used to serve smaller markets and the extent to which the airlines embrace newer technology turboprop aircraft, such as Bombardier Aerospace's Q400. These aircraft could operate well at Utah's high elevation airports, but may be too large to be profitable on routes serving Utah's smaller communities.

- A shift in the U.S. away from larger jets to regional jets (RJ) and greater use of RJs with 70 or more seats.

- Changes in regulation and funding of the Federal Essential Air Service (EAS) program that could directly impact scheduled commercial air service at the Vernal, Moab and Cedar City airports.

- The extent to which corporate aviation embraces micro jets or very light jets (VLJs) and develops point-to-point air service using these aircraft.

- The degree to which higher aircraft operating costs and potential user fees and taxes reduce general aviation recreational and business flying.

FORECAST OF COMMERCIAL ACTIVITY

The commercial aviation forecasts in this chapter include projections of both passenger enplanements and commercial aircraft operations. Forecasts of commercial aviation activity were developed by examining current levels of passenger enplanements and commercial operations at each airport presented in Chapter 2. With the exception of the new St. George airport, passenger enplanements and commercial operations are projected to grow at the population growth rate projected for the county in which the airport is located. Passenger enplanement and commercial operations forecasts for the new St. George airport are based on the recent Final Environmental Impact Statement forecast completed for the new St. George airport.

Commercial operations are divided into two categories, air carrier and air taxi. Air carrier operations operate on a set schedule, while air taxi operations are composed of commercial charter operations that operate “on demand” on a charter and/or non-scheduled basis. Air taxi operators are not permitted to publish time schedules or issue tickets to passengers. Air taxi operations are conducted at most of the airports in the Utah system. The development of Very Lights Jets (VLJs) is projected to lower the cost of air taxi service causing an increased number of operations in the future. **Table 4-1** summarizes the passenger enplanements forecasts for each commercial service airport. **Table 4-2** summarizes the forecast number of scheduled commercial aircraft operations and air taxi operations at all Utah airports included in the UCASP. Over 98 percent of the State’s passenger enplanements and 95 percent of scheduled commercial operations are projected to occur at Salt Lake City International Airport. The Wendover Airport is projected to experience the largest percentage increase in enplanements and scheduled commercial operations, growing by 67 percent over the 20 year forecasting period.

Table 4-1
Passenger Enplanement Forecasts

Associated City	Airport	Passenger Enplanements				
		2006	2011	2016	2026	2006 - 2026 AARC**
International Airports						
Salt Lake City	Salt Lake City International	10,762,203	11,423,620	12,125,686	13,661,910	**1.20%**
National Airports						
St George *	St George Municipal - New	53,777	82,420	102,020	141,220	**4.10%**
Wendover	Wendover	45,506	51,738	58,822	76,035	**2.60%**
Regional Airports						
Cedar City	Cedar City Regional	7,658	8,580	9,613	12,068	**2.30%**
Moab	Moab-Canyonlands Field	3,414	3,483	3,553	3,698	**0.40%**
Vernal	Vernal	2,123	2,177	2,232	2,346	**0.50%**
Community Airports						
Bryce Canyon	Bryce Canyon	2,857	3,003	3,156	3,486	**1.00%**
Totals		**10,877,538**	**11,575,020**	**12,305,082**	**13,900,763**	1.23%

*St George Enplanement Forecast derived from Final Environmental Impact Statement May, 2006
**AARC - Average Annual Rate of Change
Source: UDOA, Wilbur Smith Associates, 2007

Table 4-2
Commercial Operation Forecasts

Associated City	Airport	Air Carrier	Air Taxi	Air Carrier	Air Taxi	Air Carrier	Air Taxi	Air Carrier	Air Taxi	AARC**
		2006		2011		2016		2026		2006 - 2026
International Airports										
Salt Lake City	Salt Lake City International	165,035	186,202	175,178	197,645	185,944	209,792	209,501	236,371	1.20%
National Airports										
St. George *	St George New	6,277	1,158	6,982	1,270	7,192	1,320	7,612	1,420	0.77%
Wendover	Wendover	60	110	68	125	78	142	100	184	2.60%
Regional Airports										
Bountiful	Skypark		150		158		167		187	1.10%
Brigham City	Brigham City Municipal		280		305		331		392	1.70%
Cedar City	Cedar City Regional	2,760	0	3,092	0	3,465	0	4,349	0	2.30%
Heber	Heber City Municipal		1,510		1,742		2,010		2,675	2.90%
Hurricane	Hurricane		10		12		15		21	3.90%
Kanab	Kanab Municipal		60		64		69		79	1.40%
Logan	Logan-Cache		800		892		994		1,236	2.20%
Moab	Moab-Canyonlands Field	1,660	800	1,693	816	1,728	833	1,798	866	0.40%
Morgan	Morgan County		20		24		29		42	3.80%
Nephi	Nephi Municipal		30		32		35		40	1.50%
Ogden	Ogden-Hinckley Municipal	9	713	10	761	10	811	12	923	1.30%
Price	Price-Carbon County		1,010		1,041		1,072		1,138	0.60%
Provo	Provo Municipal	52	2,011	58	2,253	65	2,524	82	3,169	2.30%
Richfield	Richfield Municipal		140		146		153		167	0.90%
Salt Lake City	Salt Lake City Muni 2		430		456		484		546	1.20%
Spanish Fork	Spanish Fork-Springville		330		370		414		520	2.30%
Tooele	Tooele Valley Airport		110		125		142		184	2.60%
Vernal	Vernal	1,450	713	1,487	731	1,524	749	1,602	788	0.50%
Community Airports										
Beaver	Beaver Municipal		50		55		62		76	2.10%
Blanding	Blanding Municipal		100		103		106		113	0.60%
Bryce Canyon	Bryce Canyon		50		53		55		61	1.00%
Delta	Delta Municipal		100		105		110		122	1.00%

Table 4-2, Continued
Commercial Operation Forecasts

Associated City	Airport	Air Carrier	Air Taxi	Air Carrier	Air Taxi	Air Carrier	Air Taxi	Air Carrier	Air Taxi	AARC
		2006		2011		2016		2026		2006 - 2026
Community Airports										
Eagle Mountain	Jake Garn		50		52		54		57	0.70%
Escalante	Escalante Municipal		0		0		0		0	2.30%
Fillmore	Fillmore		10		11		11		12	1.00%
Green River	Green River		100		103		106		113	0.60%
Manti	Manti-Ephraim		10		11		11		12	1.00%
Milford	Milford Municipal		30		33		37		45	2.10%
Monticello	Monticello		50		52		53		56	0.60%
Panguitch	Panguitch Municipal		10		11		11		12	1.00%
Parowan	Parowan		30		34		38		47	2.30%
Roosevelt	Roosevelt Municipal		30		32		34		38	1.20%
Local Airports										
Bluff	Bluff Airport		0		0		0		0	0.60%
Duchesne	Duchesne Municipal		50		54		59		70	1.70%
Dutch John	Dutch John		20		21		23		25	1.20%
Glen Canyon Natl. Rec. Area	Bullfrog Basin		30		33		36		42	1.70%
Halls Crossing	Halls Crossing		100		103		106		113	0.60%
Hanksville	Hanksville		50		53		56		63	1.20%
Huntington	Huntington Municipal		20		21		21		23	0.60%
Junction	Junction		0		0		0		0	0.70%
Loa	Wayne Wonderland		10		11		11		13	1.20%
Manila	Manila		20		21		21		23	0.70%
Mount Pleasant	Mount Pleasant		10		11		11		12	1.00%
Salina	Salina-Gunnison		0		0		0		0	0.90%
Totals		**177,303**	**197,517**	**188,568**	**209,951**	**200,005**	**223,119**	**225,056**	**252,096**	**1.20%**

*St. George operations forecast derived from Final Environmental Impact Statement Forecast May, 2006
**AARC - Average Annual Rate of Change
Source: UDOA, Wilbur Smith Associates, 2006

GENERAL AVIATION FORECASTS

General aviation activity forecasts are an important step in evaluating the need for and phasing of future development. Forecasts can be used to identify where future system shortfalls may exist in accommodating future aviation demand. Also, forecasts can help to identify those airports that may now, or in the future, function in a different role within the system.

Similar to the commercial forecasts, the forecast period for general aviation activity is 20 years with a base year of 2006. Key components of the general aviation forecasts and their definitions include:

- Based Aircraft - The total number of active general aviation aircraft that are either hangared or tied down at an airport. Active is defined by the FAA as an aircraft that flew one or more hours during the previous year.

- Operations - The number of individual takeoffs and landings. If an aircraft takes off from an airport, and then lands at the same airport it is counted as two operations.

Unlike commercial aviation where carriers are required to report information about their operations, (type of aircraft used, passengers carried, and revenues collected) general aviation is not subject to these federal reporting requirements. Only three of Utah's public-use airports have an air traffic control tower to track the number of operations. The remaining public use airports in Utah estimate the number of operations and fleet mix. The UDOA has used automated acoustical counters at many airports in the State to establish a more consistent (2006) baseline for the development of forecasts.

UDOA's 2006 estimate of current operations and based general aviation aircraft form the baseline for the 20-year projections. Future growth is projected to occur at the rate forecasted for population growth in the county in which the airport is located. Wherever possible, local survey data from the UDOA acoustical counters was used as it provided a consistent and up-to-date basis for evaluation.

Based Aircraft Forecasts

A total of 2,326 aircraft were based at Utah airports in 2006. Similar to operations, based aircraft are projected to increase at the population growth rate projected for the county in which the airport is located. **Table 4-3** presents forecasts for based aircraft at individual Utah airports. Using the above described methodology, statewide based aircraft will grow to a total of 3,282 based aircraft in 2026. This is an increase of over 956 based aircraft and an average annual growth rate of 1.7 percent over the 20-year forecast period. This rate of annual growth is consistent with the FAA's national forecast of active general aviation aircraft which projects an average annual growth rate of 1.4 percent nationally.

Table 4-3
General Aviation Based Aircraft Forecasts

Associated City	Airport	Based Aircraft				
		2006	2011	2016	2026	2006 - 2026 AARC**
International Airports						
Salt Lake City	Salt Lake City International	322	342	363	409	1.20%
National Airports						
St. George*	St. George Municipal	177	188	199	225	1.20%
Wendover	Wendover	9	10	12	15	2.60%
Regional Airports						
Bountiful	Skypark	208	220	232	259	1.10%
Brigham City	Brigham City Municipal	80	87	95	112	1.70%
Cedar City	Cedar City Regional	48	54	60	76	2.30%
Heber	Heber City Municipal	100	115	133	177	2.90%
Hurricane	Hurricane	68	82	100	146	3.90%
Kanab	Kanab Municipal	19	20	22	25	1.40%
Logan	Logan-Cache	136	152	169	210	2.20%
Moab	Moab-Canyonlands Field	25	26	26	27	0.40%
Morgan	Morgan County	70	84	102	148	3.80%
Nephi	Nephi Municipal	9	10	10	12	1.50%
Ogden	Ogden-Hinckley Municipal	292	311	332	378	1.30%
Price	Price-Carbon County	34	35	36	38	0.60%
Provo	Provo Municipal	166	186	208	262	2.30%
Richfield	Richfield Municipal	29	30	32	35	0.90%
Salt Lake City	Salt Lake City Muni 2	214	227	241	272	1.20%
Spanish Fork	Spanish Fork-Springville	111	124	139	175	2.30%
Tooele	Tooele Valley Airport	20	23	26	33	2.60%
Vernal	Vernal	34	35	36	38	0.50%
Community Airports						
Beaver	Beaver Municipal	12	13	15	18	2.10%
Blanding	Blanding Municipal	16	16	17	18	0.60%
Bryce Canyon	Bryce Canyon	9	9	10	11	1.00%
Delta	Delta Municipal	9	10	11	13	1.70%
Eagle Mountain	Jake Garn	1	1	1	2	2.30%
Escalante	Escalante Municipal	2	2	2	2	1.00%
Fillmore	Fillmore	1	1	1	1	1.70%
Green River	Green River	6	6	6	7	0.60%
Manti	Manti-Ephraim	3	3	3	4	1.00%
Milford	Milford Municipal	4	4	5	6	2.10%
Monticello	Monticello	9	9	10	10	0.60%
Panguitch	Panguitch Municipal	5	5	6	6	1.00%
Parowan	Parowan	33	37	41	52	2.30%
Roosevelt	Roosevelt Municipal	12	13	14	15	1.20%

Table 4-3, Continued
General Aviation Based Aircraft Forecasts

Associated City	Airport	Based Aircraft				
		2006	2011	2016	2026	2006 - 2026 AARC
Local Airports						
Bluff	Bluff Airport	4	4	4	5	0.60%
Duchesne	Duchesne Municipal	8	8	9	10	1.20%
Dutch John	Dutch John	0	0	1	1	0.70%
Glen Canyon Natl. Rec. Area	Bullfrog Basin	0	0	0	0	1.00%
Halls Crossing	Halls Crossing	0	0	0	1	0.60%
Hanksville	Hanksville	3	3	3	4	1.20%
Huntington	Huntington Municipal	4	4	4	5	0.60%
Junction	Junction	0	0	1	1	0.70%
Loa	Wayne Wonderland	4	4	5	5	1.20%
Manila	Manila	0	0	1	1	0.70%
Mount Pleasant	Mount Pleasant	5	5	6	6	1.00%
Salina	Salina-Gunnison	5	5	5	6	0.90%
STATE TOTALS		**2,326**	**2,528**	**2,754**	**3,280**	**1.70%**

*St. George based aircraft forecast derived from Final Environmental Impact Statement Forecast May, 2006
**AARC - Average Annual Rate of Change
Source: UDOA, Wilbur Smith Associates, 2006

General Aviation Operations Forecast

Projections of general aviation aircraft operations (landings and takeoffs) help to determine whether existing capacity is sufficient to handle future demand. Some airports in Utah support extensive numbers of flight training, corporate, and other forms of flight operations. These airports are some of the most utilized facilities in Utah. **Table 4-4** lists the top 10 airports with the largest number of general aviation operations. General aviation operations are highly concentrated in northern Utah in and around the Wasatch Front area. The top 10 airports handle over 75 percent of Utah's total general aviation operations. In 2006, Provo Municipal Airport supported the highest number of general aviation operations in the State, followed by Ogden Hinckley, Logan-Cache, and Skypark airports.

Table 4-4
Top 10 Airports Ranked by 2006 Total General Aviation Operations

Associated City	Airport	Total GA Operations	Percent of Total GA Operations
Provo	Provo Municipal	156,868	16.2%
Ogden	Ogden-Hinckley	115,076	11.9%
Logan	Logan-Cache	79,600	8.2%
Bountiful	Skypark	75,762	7.8%
Salt Lake City	Salt Lake City International	66,324	6.9%
Salt Lake City	Salt Lake #2	65,823	6.8%
Spanish Fork	Spanish Fork-Springville	54,891	5.7%
Tooele	Tooele Valley Airport	44,888	4.6%
Heber	Heber City Municipal	38,746	4.0%
Brigham City	Brigham City Municipal	37,490	3.9%

Source: UDOA, Wilbur Smith Associates, 2006

General aviation operations are divided into two main categories, itinerant and local. Many airports in Utah have more itinerant operations than local operations, indicating the airport serves primarily as a “destination airport”. A “destination airport” is used more by people traveling to and from the area than by locally based pilots. Airports with higher numbers of itinerant operations tend to provide higher levels of economic impact, since these operations are generally associated with people traveling to the airport from outside the local area for business, recreation or other purposes. **Table 4-5** presents the current number of general aviation local and itinerant operations for each of the study airports. **Table 4-6** presents the forecasted number of total general aviation operations over the 20-year forecast period.

Table 4-5
2006 Local and Itinerant General Aviation Operations

Associated City	Airport	General Aviation Operations		
		Local	Itinerant	Total
International Airports				
Salt Lake City	Salt Lake City International	2,188	64,136	66,324
National Airports				
St. George	St. George Municipal	20,233	15,264	35,497
Wendover	Wendover	4,208	2,104	6,312
Regional Airports				
Bountiful	Skypark	60,731	15,031	75,762
Brigham City	Brigham City Municipal	31,265	6,225	37,490
Cedar City	Cedar City Regional	23,251	1,717	24,968
Heber	Heber City Municipal	32,246	6,500	38,746
Hurricane	Hurricane	12,574	5,380	17,953
Kanab	Kanab Municipal	6,507	1,826	8,334
Logan	Logan-Cache	68,386	11,214	79,600
Moab	Moab-Canyonlands Field	9,073	9,256	9,442
Morgan	Morgan County	9,171	2,270	11,441

Table 4-5, Continued
2006 Local and Itinerant General Aviation Operations

Associated City	Airport	General Aviation Operations		
		Local	Itinerant	Total
Regional Airports				
Nephi	Nephi Municipal	5,134	876	6,010
Ogden	Ogden-Hinckley Municipal	77,717	37,359	115,076
Price	Price-Carbon County	8,589	2,619	11,207
Provo	Provo Municipal	97,197	59,671	156,868
Richfield	Richfield Municipal	11,377	2,702	14,079
Salt Lake City	Salt Lake City Muni 2	57,000	8,823	65,823
Spanish Fork	Spanish Fork-Springville	46,939	7,952	54,891
Tooele	Tooele Valley Airport	29,250	15,638	44,888
Vernal	Vernal	7,354	2,352	9,706
Community Airports				
Beaver	Beaver Municipal	4,690	341	5,031
Blanding	Blanding Municipal	5,340	1,050	6,390
Bryce Canyon	Bryce Canyon	4,819	4,472	9,290
Delta	Delta Municipal	2,990	1,192	4,182
Eagle Mountain	Jake Garn	3,518	185	3,703
Escalante	Escalante Municipal	391	248	639
Fillmore	Fillmore	892	865	1,757
Green River	Green River	2,001	1,901	3,903
Manti	Manti-Ephraim	1,258	303	1,561
Milford	Milford Municipal	2,927	1,223	4,150
Monticello	Monticello	3,353	788	4,141
Panguitch	Panguitch Municipal	1,474	479	1,953
Parowan	Parowan	8,783	2,163	10,946
Roosevelt	Roosevelt Municipal	3,824	923	4,747
Local Airports				
Bluff	Bluff Airport	968	499	1,467
Duchesne	Duchesne Municipal	2,189	616	2,805
Dutch John	Dutch John	15	196	211
Glen Canyon Natl. Rec. Area	Bullfrog Basin	226	122	349
Halls Crossing	Halls Crossing	204	1,402	1,606
Hanksville	Hanksville	763	358	1,120
Huntington	Huntington Municipal	1,100	452	1,552
Junction	Junction	18	102	121
Loa	Wayne Wonderland	1,254	303	1,557
Manila	Manila	15	225	240
Mount Pleasant	Mount Pleasant	1,823	442	2,265
Salina	Salina-Gunnison	1,255	418	1,674
STATE TOTALS		**674,507**	**292,898**	**967,405**

Source: UDOA, Wilbur Smith Associates, 2006

Table 4-6
General Aviation Operation Forecasts

Associated City	Airport	2006	2011	2016	2026	2006 – 2026 AARC**
International Airports						
Salt Lake City	Salt Lake City International	66,324	70,400	74,727	84,194	1.2%
National Airports						
St. George*	St. George Municipal	35,497	36,983	38,698	42,128	0.9%
Wendover	Wendover	6,312	7,177	8,160	10,547	2.6%
Regional Airports						
Bountiful	Skypark	75,762	80,021	84,521	94,292	1.1%
Brigham City	Brigham City Municipal	37,490	40,786	44,373	52,521	1.7%
Cedar City	Cedar City Regional	24,968	27,974	31,342	39,345	2.3%
Heber	Heber City Municipal	38,746	44,700	51,569	68,634	2.9%
Hurricane	Hurricane	17,953	21,738	26,321	38,589	3.9%
Kanab	Kanab Municipal	8,334	8,934	9,577	11,005	1.4%
Logan	Logan-Cache	79,600	88,750	98,952	123,007	2.2%
Moab	Moab-Canyonlands Field	9,073	9,256	9,442	9,827	0.4%
Morgan	Morgan County	11,441	13,787	16,613	24,122	3.8%
Nephi	Nephi Municipal	6,010	6,474	6,975	8,094	1.5%
Ogden	Ogden-Hinckley Municipal	115,076	122,753	130,942	148,996	1.3%
Price	Price-Carbon County	11,207	11,548	11,898	12,632	0.6%
Provo	Provo Municipal	156,868	175,757	196,920	247,199	2.3%
Richfield	Richfield Municipal	14,079	14,724	15,398	16,842	0.9%
Salt Lake City	Salt Lake City Muni 2	65,823	69,868	74,162	83,557	1.2%
Spanish Fork	Spanish Fork-Springville	54,891	61,500	68,906	86,499	2.3%
Tooele	Tooele Valley Airport	44,888	51,034	58,023	75,002	2.6%
Vernal	Vernal	9,706	9,951	10,202	10,724	0.5%
Community Airports						
Beaver	Beaver Municipal	5,031	5,582	6,193	7,624	2.1%
Blanding	Blanding Municipal	6,390	6,584	6,784	7,203	0.6%
Bryce Canyon	Bryce Canyon	9,290	9,764	10,262	11,336	1.0%
Delta	Delta Municipal	4,182	4,550	4,950	5,859	1.7%

Table 4-6, Continued
General Aviation Operation Forecasts

Associated City	Airport					
		2006	2011	2016	2026	2006 - 2026 AARC
Community Airports						
Eagle Mountain	Jake Garn	3,703	4,149	4,648	5,835	2.3%
Escalante	Escalante Municipal	639	671	706	779	1.0%
Fillmore	Fillmore	1,757	1,911	2,079	2,461	1.7%
Green River	Green River	3,903	4,021	4,143	4,399	0.6%
Manti	Manti-Ephraim	1,561	1,641	1,725	1,905	1.0%
Milford	Milford Municipal	4,150	4,604	5,109	6,289	2.1%
Monticello	Monticello	4,141	4,266	4,396	4,667	0.6%
Panguitch	Panguitch Municipal	1,953	2,053	2,158	2,383	1.0%
Parowan	Parowan	10,946	12,264	13,741	17,249	2.3%
Roosevelt	Roosevelt Municipal	4,747	5,038	5,348	6,025	1.2%
Local Airports						
Bluff	Bluff Airport	1,467	1,511	1,557	1,653	0.6%
Duchesne	Duchesne Municipal	2,805	2,977	3,160	3,561	1.2%
Dutch John	Dutch John	211	218	226	242	0.7%
Glen Canyon Natl. Rec. Area	Bullfrog Basin	349	367	385	426	1.0%
Halls Crossing	Halls Crossing	1,606	1,655	1,705	1,810	0.6%
Hanksville	Hanksville	1,120	1,189	1,262	1,422	1.2%
Huntington	Huntington Municipal	1,552	1,599	1,648	1,750	0.6%
Junction	Junction	121	125	129	139	0.7%
Loa	Wayne Wonderland	1,557	1,653	1,754	1,977	1.2%
Manila	Manila	240	248	257	275	0.7%
Mount Pleasant	Mount Pleasant	2,265	2,380	2,502	2,764	1.0%
Salina	Salina-Gunnison	1,674	1,751	1,831	2,002	0.9%
STATE TOTALS		**967,405**	**1,056,888**	**1,156,378**	**1,389,790**	**1.83%**

*St. George operations forecast derived from Final Environmental Impact Statement Forecast May, 2006
**AARC - Average Annual Rate of Change
Source: UDOA, Wilbur Smith Associates, 2006

Military Operations

Table 4-7 presents the distribution of military operations at Utah's non-military airports. Statewide, military operations are a relatively small component of the total operations conducted at Utah's non-military airports. In 2006, they represented less than one percent of the total operations conducted statewide. The largest concentration of military operations occurred at Salt Lake City Muni #2 and Salt Lake City International Airports. Both airports are home to National Guard bases. Changes in military operations are highly dependent on specific events and are likely to have the greatest impact on airports with the largest existing military presence. Changes in military flying activity in the State are very difficult to predict, and experience over many years shows that variations are temporary. For these reasons, military operations in this UCASP are considered to be constant over the 20-year span.

Table 4-7
Military Operation Forecasts

Associated City	Airport	2006	2011	2016	2026	2006 - 2026 AARC**
International Airports						
Salt Lake City	Salt Lake City International	1,927	1,927	1,927	1,927	0.00%
National Airports						
St. George	St. George Municipal	210	210	210	210	0.00%
Regional Airports						
Cedar City	Cedar City Regional	215	215	215	215	0.00%
Heber	Heber City Municipal	50	50	50	50	0.00%
Logan	Logan-Cache	50	50	50	50	0.00%
Moab	Moab-Canyonlands Field	100	100	100	100	0.00%
Ogden	Ogden-Hinckley Municipal	318	318	318	318	0.00%
Price	Price-Carbon County	50	50	50	50	0.00%
Provo	Provo Municipal	862	862	862	862	0.00%
Salt Lake City	Salt Lake City Muni 2	5,000	5,000	5,000	5,000	0.00%
Vernal	Vernal	100	100	100	100	0.00%
STATE TOTALS		**8,882**	**8,882**	**8,882**	**8,882**	

**AARC - Average Annual Rate of Change
Source: UDOA, Wilbur Smith Associates, 2006

Air Cargo

Six airports in Utah currently receive regular air cargo service. These airports, with the exception of Price – Carbon County, also receive scheduled commercial air service. The majority of all air cargo shipped in the State of Utah is transported to and from Salt Lake City International Airport. Air cargo is transferred to and from larger aircraft at Salt Lake City International Airport to smaller “feeder” aircraft that transport smaller loads to and from smaller communities throughout the State. To identify future levels of air cargo activity in Utah, air cargo activity was projected to grow at the rate forecast for population in the county in which the airport is located. **Table 4-8** details the amount of cargo, in pounds, projected to be enplaned and deplaned (loaded and unloaded) at individual airports in Utah currently receiving regular air cargo service.

Table 4-8
Air Cargo Forecasts*

		2006		2011		2016		2026		2006 - 2026
Associated City	**Airport**	**Enplaned**	**Deplaned**	**Enplaned**	**Deplaned**	**Enplaned**	**Deplaned**	**Enplaned**	**Deplaned**	**AARC****
International Airports										
Salt Lake City	Salt Lake City International	17,910,000	17,512,000	19,010,702	18,588,242	20,179,050	19,730,626	22,735,569	22,230,335	1.20%
National Airports										
St. George	St George New	674,604	1,422,540	816,821	1,722,433	989,018	2,085,547	1,449,973	3,057,563	3.90%
Wendover	Wendover	1,260	0	1,433	0	1,629	0	2,105	0	2.60%
Regional Airports										
Cedar City	Cedar City Regional	273,168	554,400	306,061	621,157	342,915	695,952	430,470	873,647	2.30%
Price	Price-Carbon County	63,000	378,000	64,913	389,477	66,884	401,302	71,007	426,041	0.60%
Vernal	Vernal	100,800	466,200	103,345	477,972	105,955	490,042	111,373	515,102	0.50%
STATE TOTALS		**438,228**	**1,398,600**	**475,752**	**1,488,606**	**517,382**	**1,587,296**	**614,955**	**1,814,790**	**1.41%**

*Pounds of enplaned and deplaned cargo
**AARC - Average Annual Rate of Change
Source: UDOA, Wilbur Smith Associates, 2006

AIRFIELD CAPACITY

Following the development of operations forecasts, the ability of an airport to accommodate the projected levels of activity is typically assessed. The accepted method of determining an airport's capacity is outlined in FAA AC 150/5060-5, *Airport Capacity and Delay*. The following key terms are relative to the discussion of capacity:

- Demand – the magnitude of aircraft operations to be accommodated in a specified period of time.
- Capacity – a measure of the maximum number of aircraft operations that can be accommodated in a specified period of time
- Annual Service Volume (ASV) – a reasonable estimate of the airport's annual capacity
- Delay – the difference between the actual time it takes an aircraft to operate on the airfield and the time it would take the aircraft if it were operating without interference from other aircraft, usually expressed in minutes

The methodology used in the UCASP focuses on annual service volume (ASV), which is commonly used by the FAA as a quantifiable measure of operating capacity as well as hourly capacity. The calculation of ASV and comparison to projected demand is an important tool in the short and long-range planning process for each airport.

Factors Affecting Airfield Capacity

For this analysis a general approach was used in determine the ASV for each system airport. The factors considered include: airfield layout, type of approach procedure, and the presence or lack of an air traffic control tower. In a more detailed airport master plan-level analysis, several other factors would also be considered including aircraft fleet mix, percent of touch and go operations, and the number and spacing of exit taxiways. Capacity is an important issue at Salt Lake City International Airport especially during inclement weather conditions. Airspace limitations due to surrounding mountainous terrain is responsible for the majority of the constraint. The Salt Lake City International Master Plan has identified these issues and makes appropriate recommendations for improvements.

Table 4-9 presents the current and projected total operations for each airport in addition to the current and projected ASV for each airport. Generally, it is not desirable for an airport's operations to exceed 60 percent of its annual airfield capacity without planning for capacity enhancements or implementing demand management strategies. When airport activity reaches 80 percent of annual capacity, new airfield facilities may be constructed or demand management strategies would be put in place to control or reduce delay. The Logan and Ogden airports are each projected to exceed 60 percent of their ASV over the forecast period, with the Provo airport exceeding 100 percent of its annual operating capacity before the year 2026. The forecasts developed in this chapter are insufficient to make the case that airfield capacity improvements will be required at these airports; however, potential capacity issues should be studied carefully at these airports during the next airport master plan or ALP update.

Table 4-9
Total Operations Forecast / Current and Projected ASV and Capacity Utilization

Associated City	Airport	Total 2006	Total 2011	Total 2016	Total 2026	ASV	% ASV 2006	% ASV 2026
International Airports								
Salt Lake City	Salt Lake City International	419,488	445,150	472,390	531,993	413,000	**102%**	**129%**
National Airports								
St. George	St. George Municipal	45,307	44,985	47,005	51,075	195,500	23%	26%
Wendover	Wendover	7,072	8,041	9,142	11,817	161,000	4%	7%
Regional Airports								
Bountiful	Skypark	75,912	80,180	84,688	94,478	172,500	44%	55%
Brigham City	Brigham City Municipal	37,770	41,091	44,704	52,913	218,500	17%	24%
Cedar City	Cedar City Regional	32,293	36,155	40,483	50,764	207,000	16%	25%
Heber	Heber City Municipal	40,306	46,492	53,628	71,359	195,500	21%	37%
Hurricane	Hurricane	17,963	21,750	26,336	38,610	149,500	12%	26%
Logan	Logan-Cache	80,450	89,692	99,996	124,294	195,500	41%	**64%**
Kanab	Kanab Municipal	8,394	8,998	9,646	11,084	161,000	5%	7%
Moab	Moab-Canyonlands Field	11,833	12,069	12,311	12,808	195,500	6%	7%
Morgan	Morgan County	11,461	13,811	16,642	24,165	149,500	8%	16%
Nephi	Nephi Municipal	6,040	6,507	7,009	8,135	184,000	3%	4%
Ogden	Ogden-Hinckley Municipal	116,116	123,841	132,082	150,248	218,500	53%	**69%**
Price	Price-Carbon County	12,267	12,638	13,020	13,820	184,000	7%	8%
Provo	Provo Municipal	159,793	178,930	200,372	251,312	230,000	**69%**	**109%**
Richfield	Richfield Municipal	14,219	14,870	15,552	17,009	161,000	9%	11%
Salt Lake City	Salt Lake City Muni 2	71,253	75,324	79,646	89,103	195,500	36%	46%
Spanish Fork	Spanish Fork-Springville	55,221	61,870	69,320	87,019	184,000	30%	47%
Tooele	Tooele Valley Airport	44,998	51,159	58,165	75,186	184,000	24%	41%
Vernal	Vernal	12,256	12,563	12,878	13,531	195,500	6%	7%

Table 4-9, Continued
Total Operation Forecasts / Current and Projected ASV and Capacity Utilization

Associated City	Airport	Total 2006	Total 2011	Total 2016	Total 2026	ASV	% ASV 2006	% ASV 2026
Community Airports								
Beaver	Beaver Municipal	5,081	5,638	6,255	7,700	149,500	3%	5%
Blanding	Blanding Municipal	6,490	6,687	6,890	7,315	161,000	4%	5%
Bryce Canyon	Bryce Canyon	9,640	10,132	10,649	11,763	184,000	5%	6%
Delta	Delta Municipal	4,232	4,604	5,009	5,929	161,000	3%	4%
Eagle Mountain	Jake Garn	3,703	4,149	4,648	5,835	138,000	3%	4%
Escalante	Escalante Municipal	649	682	717	792	149,500	0%	1%
Fillmore	Fillmore	1,787	1,944	2,115	2,503	149,500	1%	2%
Green River	Green River	4,003	4,124	4,250	4,512	172,500	2%	3%
Manti	Manti-Ephraim	1,571	1,651	1,736	1,917	149,500	1%	1%
Milford	Milford Municipal	4,180	4,638	5,146	6,334	161,000	3%	4%
Monticello	Monticello	4,191	4,318	4,449	4,723	184,000	2%	3%
Panguitch	Panguitch Municipal	1,963	2,063	2,169	2,396	149,500	1%	2%
Parowan	Parowan	10,976	12,298	13,779	17,297	184,000	6%	9%
Roosevelt	Roosevelt Municipal	4,777	5,070	5,382	6,064	161,000	3%	4%
Local Airports								
Bluff	Bluff Airport	1,467	1,511	1,557	1,653	149,500	1%	1%
Duchesne	Duchesne Municipal	2,825	2,999	3,183	3,586	161,000	2%	2%
Dutch John	Dutch John	261	270	280	300	149,500	0%	0%
Glen Canyon Natl. Rec. Area	Bullfrog Basin	449	472	496	548	149,500	0%	0%
Halls Crossing	Halls Crossing	1,706	1,758	1,811	1,923	184,000	1%	1%
Hanksville	Hanksville	1,170	1,242	1,319	1,486	149,500	1%	1%
Huntington	Huntington Municipal	1,572	1,620	1,669	1,772	161,000	1%	1%
Junction	Junction	121	125	129	139	149,500	0%	0%
Loa	Wayne Wonderland	1,567	1,663	1,766	1,989	149,500	1%	1%
Manila	Manila	260	269	278	298	149,500	0%	0%
Mount Pleasant	Mount Pleasant	2,275	2,391	2,513	2,776	149,500	2%	2%
Salina	Salina-Gunnison	1,674	1,751	1,831	2,002	149,500	1%	1%
Totals		**1,358,999**	**1,470,186**	**1,595,037**	**1,884,274**			

Source: UDOA, Wilbur Smith Associates, 2006

COMPARISON WITH FAA TERMINAL AREA FORECAST

The FAA publishes forecasts on an annual basis that summarize anticipated trends in most components of civil aviation. Each published forecast revisits previous activity forecasts and updates them after examining the previous year's trends in aviation and economic activity. Many factors are considered in the FAA's development of forecasts. Some of the most important are U.S. and international economic growth and projected aircraft operating costs. FAA forecasts generally supply one of the most detailed analyses of historic and forecasted aviation trends and provide the general framework for examining future levels of regional and national aviation activity.

The Terminal Area Forecast (TAF) is the official forecast developed annually by the FAA and includes all active airports in the National Plan of Integrated Airport System (NPIAS). **Table 4-10** compares of the total operations and based aircraft forecasts developed in this chapter of the UCASP with the TAF. The most recent TAF was published in 2006 and includes based aircraft and operation forecasts for 35 NPIAS airports in the Utah system.

The table presents a comparison of the number of based aircraft and total operations for the current and forecast years of 2006, 2016, and 2026. The percent difference between the UCASP forecast and the TAF for the year 2026 is also presented. A negative percentage indicates that the TAF projects a higher rate of the growth than the UCASP forecast, and a positive percentage indicates a lower projected rate of growth in the TAF. Generally, the FAA finds a planning forecast acceptable if the forecast falls within ten percent of the TAF.

Because of the top down general approach used to develop the forecasts in this chapter, some individual airport forecasts vary considerably from the FAA TAF. In cases were the FAA was unable to obtain accurate or verifiable baseline data, based aircraft and operations were projected to remain constant over the period of the TAF. Most of the airport forecasts showing the greatest variance from the TAF had activity levels that were projected to remain constant. Examples are: Brigham City, Duchesne, Manti and Richfield.

Statewide, comparison of the UCASP forecast with the TAF produces fairly good agreement. The combined UCASP operations forecasts are four percent higher than the TAF projections, while the combined UCASP based aircraft forecasts are 17 percent higher than the TAF forecasts.

Table 4-10
Comparison of UCASP Forecasts with FAA TAF

Associated City	Airport		UCASP 2006	FAA TAF 2006	UCASP 2016	FAA TAF 2016	UCASP 2026	FAA TAF 2026	% Difference 2026
International Airports									
Salt Lake City	Salt Lake City International	Operations	419,488	426,350	472,390	535,376	531,993	622,105	-14%
		Based Aircraft	322	326	342	373	409	425	-4%
National Airports									
St. George	St. George Municipal	Operations	45,307	44,796	47,005	50,351	51,075	56,019	-9%
		Based Aircraft	177	180	188	203	225	227	-1%
Wendover	Wendover	Operations	7,072	9,056	9,142	9,056	11,817	9,056	30%
		Based Aircraft	9	9	10	9	15	8	88%
Regional Airports									
Brigham City	Brigham City Municipal	Operations	37,770	18,022	44,704	18,022	52,913	18,022	194%
		Based Aircraft	80	80	87	80	112	80	40%
Cedar City	Cedar City Regional	Operations	32,293	34,971	40,483	36,788	50,764	38,534	32%
		Based Aircraft	48	48	54	51	76	54	40%
Heber	Heber City Municipal	Operations	40,306	48,758	53,628	64,839	71,359	83,872	-15%
		Based Aircraft	100	96	133	120	177	149	19%
Kanab	Kanab Municipal	Operations	8,394	10,250	9,646	10,250	11,084	10,250	8%
		Based Aircraft	19	19	22	19	25	19	32%
Logan	Logan-Cache	Operations	80,450	173,197	99,996	184,078	124,294	194,993	-36%
		Based Aircraft	136	139	169	165	210	192	9%
Moab	Moab-Canyonlands Field	Operations	11,833	16,388	12,311	16,388	12,808	16,388	-22%
		Based Aircraft	25	25	26	25	27	25	8%
Nephi	Nephi Municipal	Operations	6,040	6,500	7,009	6,500	8,135	6,500	25%
		Based Aircraft	9	9	10	9	12	9	35%
Ogden	Ogden-Hinckley Municipal	Operations	116,116	119,831	132,082	133,464	150,248	144,043	4%
		Based Aircraft	292	295	311	337	378	340	11%

Table 4-10, Continued
Comparison of UCASP Forecasts with FAA TAF

Associated City	Airport		UCASP 2006	FAA TAF 2006	UCASP 2016	FAA TAF 2016	UCASP 2026	FAA TAF 2026	% Difference 2026
Regional Airports									
Price	Price-Carbon County	Operations	12,267	7,600	13,020	7,600	13,820	7,600	82%
		Based Aircraft	34	30	36	30	38	30	28%
Provo	Provo Municipal	Operations	159,793	165,837	200,372	182,379	251,312	198,692	26%
		Based Aircraft	166	167	208	182	262	197	33%
Richfield	Richfield Municipal	Operations	14,219	7,316	15,552	7,316	17,009	7,316	132%
		Based Aircraft	29	29	32	29	35	29	20%
Salt Lake City	Salt Lake City Muni 2	Operations	71,253	75,000	79,646	75,000	89,103	75,000	19%
		Based Aircraft	214	214	227	214	272	214	27%
Spanish Fork	Spanish Fork-Springville	Operations	55,221	52,700	69,320	52,700	87,019	52,700	65%
		Based Aircraft	111	111	139	111	175	111	58%
Tooele	Tooele Valley Airport	Operations	44,998	20,412	58,165	20,412	75,186	20,412	268%
		Based Aircraft	20	20	23	20	33	20	67%
Vernal	Vernal	Operations	12,256	19,650	12,878	19,650	13,531	19,650	-31%
		Based Aircraft	34	39	35	39	38	39	-4%
Community Airports									
Beaver	Beaver Municipal	Operations	5,081	2,950	6,255	2,950	7,700	2,950	161%
		Based Aircraft	12	12	13	12	18	12	52%
Blanding	Blanding Municipal	Operations	6,490	4,740	6,890	4,740	7,315	4,740	54%
		Based Aircraft	16	16	16	16	18	16	13%
Bryce Canyon	Bryce Canyon	Operations	9,640	3,132	10,649	3,132	11,763	3,132	276%
		Based Aircraft	9	9	9	9	11	9	22%
Delta	Delta Municipal	Operations	4,232	4,850	5,009	4,850	5,929	4,850	22%
		Based Aircraft	9	9	10	9	13	9	40%
Escalante	Escalante Municipal	Operations	649	751	717	822	792	893	-11%
		Based Aircraft	2	2	2	2	2	2	0%

Table 4-10, Continued
Comparison of UCASP Forecasts with FAA TAF

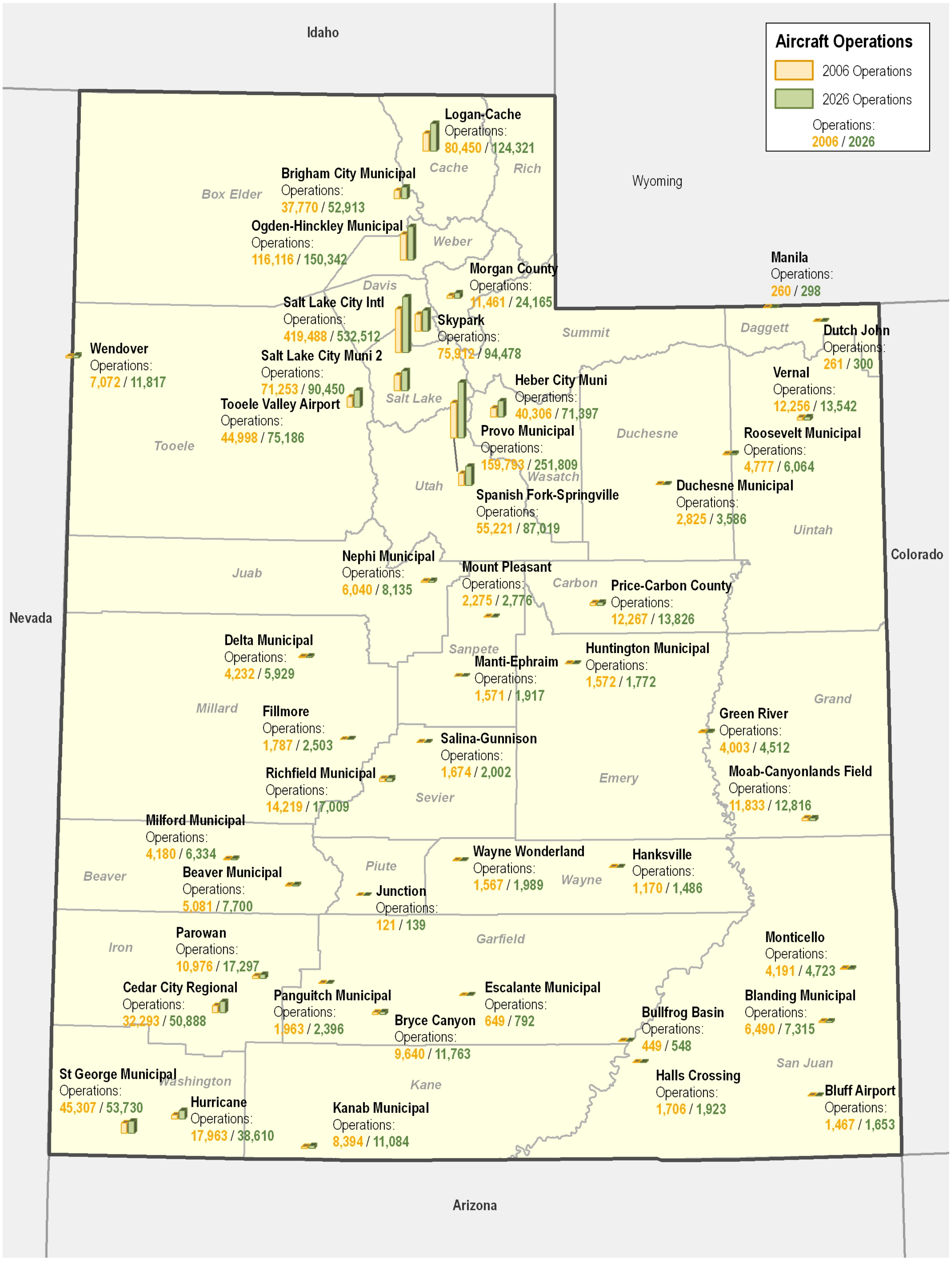
			UCASP	FAA TAF	UCASP	FAA TAF	UCASP	FAA TAF	% Difference
	Associated City	**Airport**	**2006**	**2006**	**2016**	**2016**	**2026**	**2026**	**2026**
Community Airports									
Operations	Green River	Green River	4,003	4,600	4,250	4,600	4,512	4,600	-2%
Based Aircraft			6	6	6	6	7	6	13%
Operations	Manti	Manti-Ephraim	1,571	900	1,736	900	1,917	900	113%
Based Aircraft			3	3	3	3	4	3	22%
Operations	Milford	Milford Municipal	4,180	3,465	5,146	3,465	6,334	3,465	83%
Based Aircraft			4	4	5	4	6	4	52%
Operations	Monticello	Monticello	4,191	4,650	4,449	4,650	4,723	4,650	2%
Based Aircraft			9	9	10	9	10	9	13%
Operations	Panguitch	Panguitch Municipal	1,963	1,550	2,169	1,550	2,396	1,550	55%
Based Aircraft			5	6	6	6	6	6	2%
Operations	Parowan	Parowan	10,976	11,575	13,779	11,575	17,297	11,575	49%
Based Aircraft			33	33	41	33	52	33	58%
Operations	Roosevelt	Roosevelt Municipal	4,777	6,000	5,382	6,000	6,064	6,000	1%
Based Aircraft			12	9	14	9	15	9	69%
Operations	Duchesne	Duchesne Municipal	2,825	1,560	3,183	1,560	3,586	1,560	130%
Based Aircraft			8	8	8	8	10	8	27%
Operations	Halls Crossing	Halls Crossing	1,706	2,400	1,811	2,400	1,923	2,400	-20%
Based Aircraft			0	0	0	0	0	0	0%
Operations	Hanksville	Hanksville	1,170	1,050	1,319	1,050	1,486	1,050	42%
Based Aircraft			3	3	3	3	4	3	33%
Operations	Loa	Wayne Wonderland	1,567	1,800	1,766	1,800	1,989	1,800	11%
Based Aircraft			4	4	5	4	5	4	27%
Operations	Manila	Manila	260	450	278	450	298	450	-34%
Based Aircraft			0	1	0	1	0	1	-100%
Operations	**Totals**		**1,240,357**	**1,313,057**	**1,452,137**	**1,486,663**	**1,709,494**	**1,637,717**	**4%**
Based Aircraft	**Totals**		**1,960**	**1,970**	**2,203**	**2,150**	**2,699**	**2,302**	**17%**

Source: FAA Terminal Area Forecasts 2006, UDOA, Wilbur Smith Associates.

SUMMARY

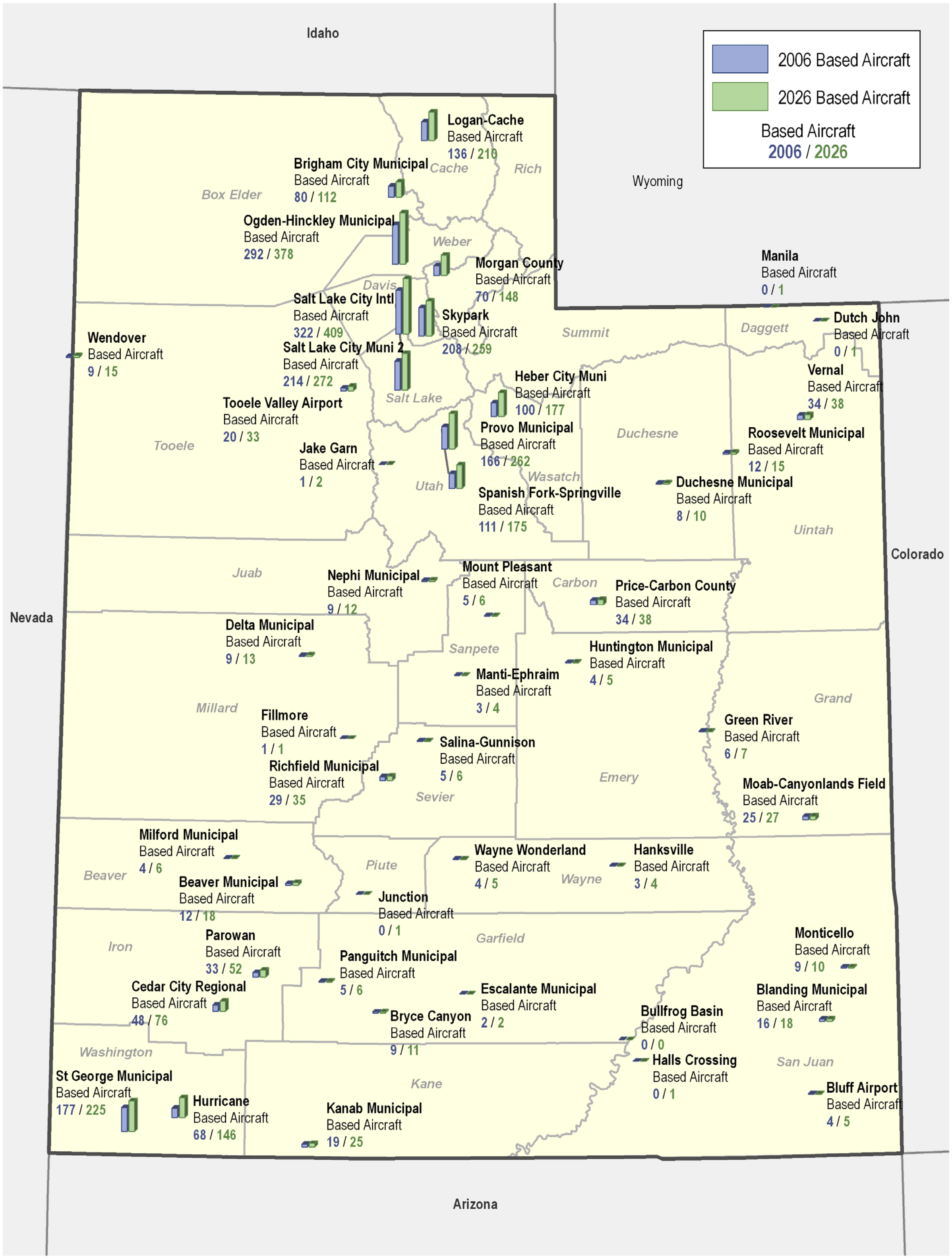
The projections developed in this chapter will be used in the evaluation of the existing airport system's ability to accommodate future demand. The projections provided in this chapter are considered planning estimates and are based on information gathered from the best available sources. These projections were developed to a system planning level of detail versus a more detailed individual airport master plan forecast. Comprehensive airport master plans will continue to provide guidance for actual airport development, as these plans and forecasts are developed from a detailed examination of each airport's local conditions and operating environment. **Exhibits 4-11** and **4-12** present the current and projected number of total operations and based aircraft for each system airport at the end of the 20-year forecast period.

Exhibit 4-1
Current and Projected Total Aircraft Operations



Source: 2007, UDOA, Wilbur Smith Associates

Exhibit 4-2
Current and Projected Based Aircraft



Source: 2007, UDOA, Wilbur Smith Assocates

Chapter Five: Adequacy Analysis

Chapter Three of the Utah Continuous Airport System Plan describes the process used to identify roles for each airport in the Utah Airport System. Following the role classification of the state's airports, facility and service objectives were established for each airport role. The five airport role classifications are: International, National, Regional, Community, and Local. Stratification of the airports into functional roles within the Utah Airport System provides a baseline for evaluating the performance of Utah's existing airport system. Performance measures are used to evaluate the system to determine its current level of operation. This evaluation provides information in three main areas: 1) where the current airport system is adequate to meet the state's near and long-term aviation needs; 2) where specific airport or system deficiencies exist within the state; and 3) where surpluses or duplications of service exist within the system. This evaluation also provides the foundation for subsequent recommendations for the Utah Airport System, as well as for individual study airports.

This chapter provides an analysis of the existing airport system's adequacy with respect to three general system goal categories. The three goal categories established to evaluate the system include the following:

- Activity Served – Provide a system of airports with adequate facilities and services to serve the existing and projected levels of aviation activity or demand

- Economic Support – Provide an airport system that supports economic development to regional and local businesses by developing airports that allow sufficient access to the national air transportation system

- Facilities & Accessibility – Provide facilities that are accessible from the ground and air to meet the demands of users

The following sections of this chapter use each of the goal categories to evaluate the existing Utah Airport System. These analyses are based on conditions as of January 2007.

GOAL CATEGORY: ACTIVITY SERVED

For an airport system to adequately serve a state, it should provide the level of facilities necessary to accommodate demand from both current and future users. These users include the traveling public as well as individual aircraft operators. The ability of any airport system to meet the Activity Served goal category is determined by several factors.

One factor used to measure activity served is by determining the coverage or access provided by system airports to all geographic areas of the state, and by determining the percentages of the state's population that are within reasonable drive times of system airports. A second factor used to determine activity served is by measuring the coverage provided by airports within each classification. A third factor in the measurement of activity served is determined by measuring the effective coverage provided by airports that offer certain types of facilities and services.

Federal Aviation Administration (FAA) system planning guidelines recommend that general aviation airports be located within 30 minutes of users. ArcGIS 9, a Geographic Information System (GIS), was used to determine the ground coverage of airports and their proximity to existing and future users. Applying this rule of thumb to Utah's system airports using Geographic Information Systems (GIS), coverage areas for each airport in the Utah Airport System were developed. GIS uses map-based systems to assign drive times to airports based on the type of road and posted speed limit. When the 30-minute drive times for each airport are calculated and applied to mapping that includes data such as population, the ability of Utah's airport system to serve the state and its population can be determined.

Aircraft accessibility is also an important factor in measuring system performance. It's influenced by factors such as the type of approach available (precision, non-precision, or visual), airport lighting, and the presence, or lack thereof, of on-site weather reporting equipment to support the ability of aircraft to land in all weather conditions.

Performance measures used to evaluate the system's ability to serve activity, both in terms of adequate ground and aircraft access are discussed below.

- Percent of Utah's population having access to an airport with commercial service
- Percent of Utah's population within 30 minutes of an airport with FAR Part 135 passenger aircraft charter service
- Airports accommodating operations conducted under instrument flight rules (IFR) from outside Utah
- Airports accommodating air medical operations

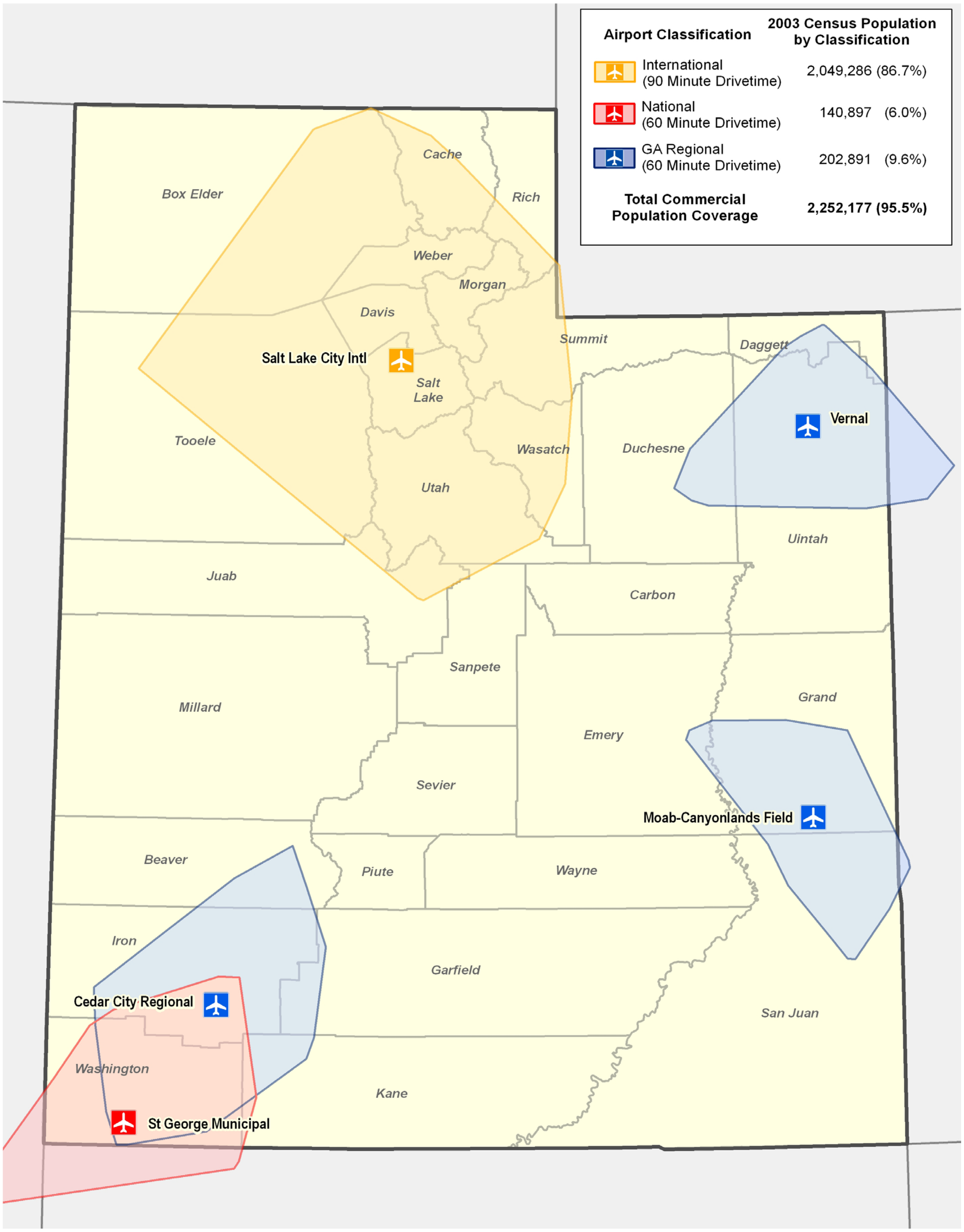
Percent of Utah's population having access to an airport with commercial service

It is important that commercial service airports provide adequate coverage to Utah's population. Commercial service airports typically serve a larger market area than general aviation airports since there are fewer commercial service airports throughout the U.S. For large commercial service airports with international or low cost carrier service, a 90-minute drive time is typically used to evaluate passenger accessibility. This drive time is appropriate because passengers are typically willing to drive further to reach an airport that has this type of service. For small commercial service airports, including those served by only one airline or that have service to only a few destinations, passengers are typically willing to drive 60 minutes to obtain commercial airline service.

GIS analysis depicted in **Exhibit 5-1** shows that 95.5 percent of Utah's population is within a 90-minute drive time of the Salt Lake City International Airport or within a 60-minute drive time of another airport that supports commercial service. The other airports in Utah that currently support scheduled commercial air service include Cedar City, Moab, St. George, and Vernal. Access to commercial air serve is provided to a majority of Utah's population by two airports, Salt Lake City International and St. George Municipal. The remaining three commercial service airports (Cedar City, Moab, Vernal) have single carrier service and are located in more sparsely populated areas of the state, thus providing service to a limited portion of Utah's population. The Wendover and Bryce Canyon airports were not considered in this analysis. These airports support frequent aircraft charter operations but do not provide scheduled aircraft service to the general public.

Areas of Utah that lie beyond the 60-minute and 90-minute drive time include the central and south-east portions of the state. These areas of Utah are sparsely populated, with only two towns (Price and Richfield) having a population greater than 5,000 people. While over 95 percent of the population is within the service areas for the commercial service airports, approximately 35 percent of the state's land area is contained within the drive time coverage provided by these airports. This indicates that while there are large areas of land that are beyond the coverage areas of the commercial service airports, there is limited population to be served in the 65 percent of the land area that is not covered.

Exhibit 5-1
Population with Access to Scheduled Commercial Air Service



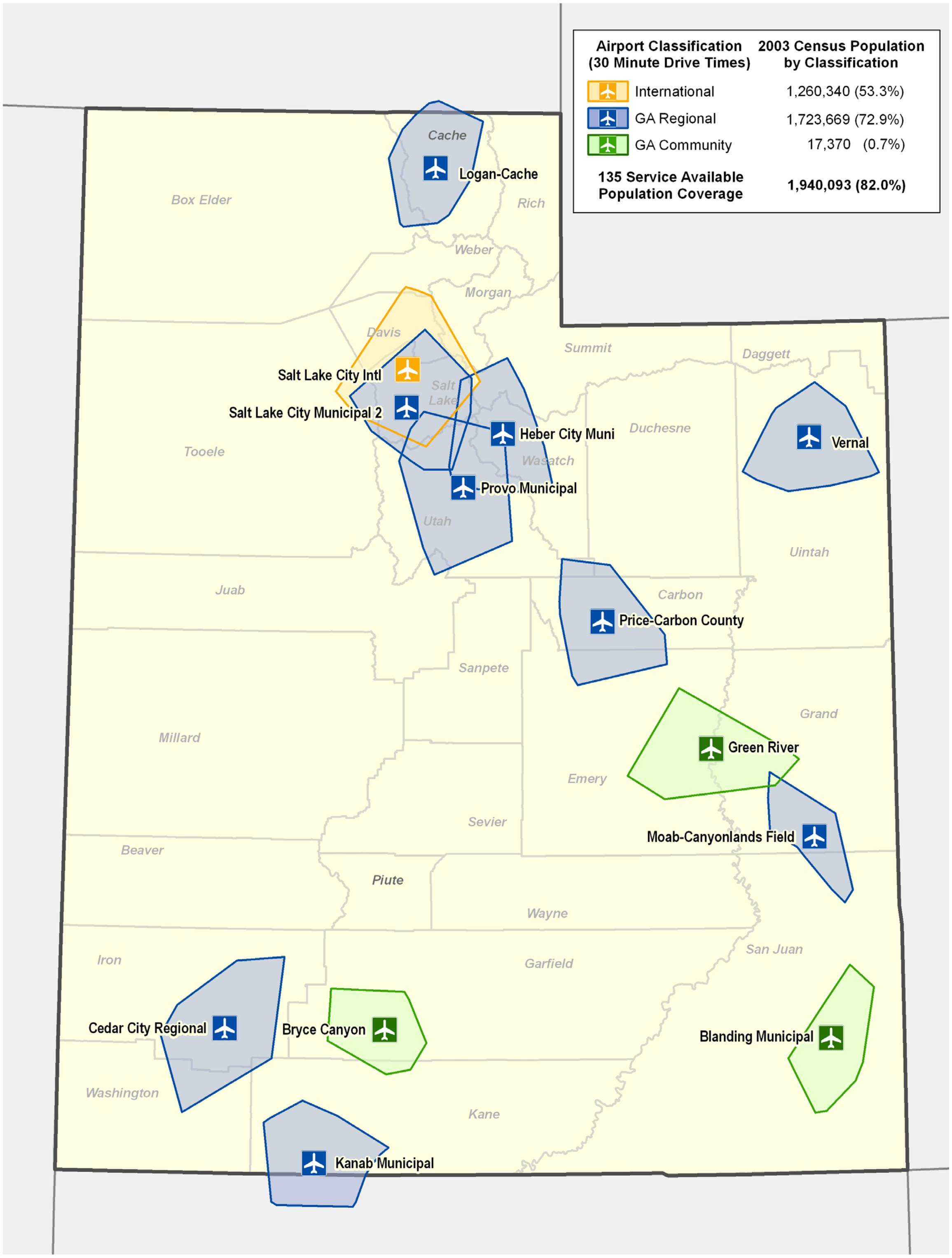
Source: 2003, US Census

Percent of Utah's population having access to an airport with FAR Part 135 passenger aircraft charter service

Many companies and individuals are increasingly chartering aircraft for their air transportation needs. Air charter companies operate on an "on-demand" basis and are often referred to as "Air Taxis". These service providers allow users to travel on their own schedule with considerable flexibility. Charter operators in Utah operate a range of aircraft from small single-engine piston to large business jets capable of traveling nonstop anywhere in the United States and beyond. Air Taxi or passenger aircraft charter service providers operate under Federal Aviation Regulation (FAR) Part 135. These regulations outline the rules and requirements that these service providers must adhere to in providing air transportation services to the general public.

According to FAA records obtained from AIRPAC Inc., Utah currently has 13 airports with a passenger aircraft charter operator based on-site. As shown in **Exhibit 5-2**, 82 percent of the state's population is within a 30-minute drive time of one of these airports. Although most Utah airports do not have a charter operator based at the airport, this service can still be provided at most airports. Aircraft charter operations can occur at any airport that meets the operational requirements of the chartered aircraft. However, airports with a charter operator based at the airport, generally, are able to provide higher levels of service to individuals desiring to utilize chartered aircraft.

Exhibit 5-2
Population with Access to Air Charter Service



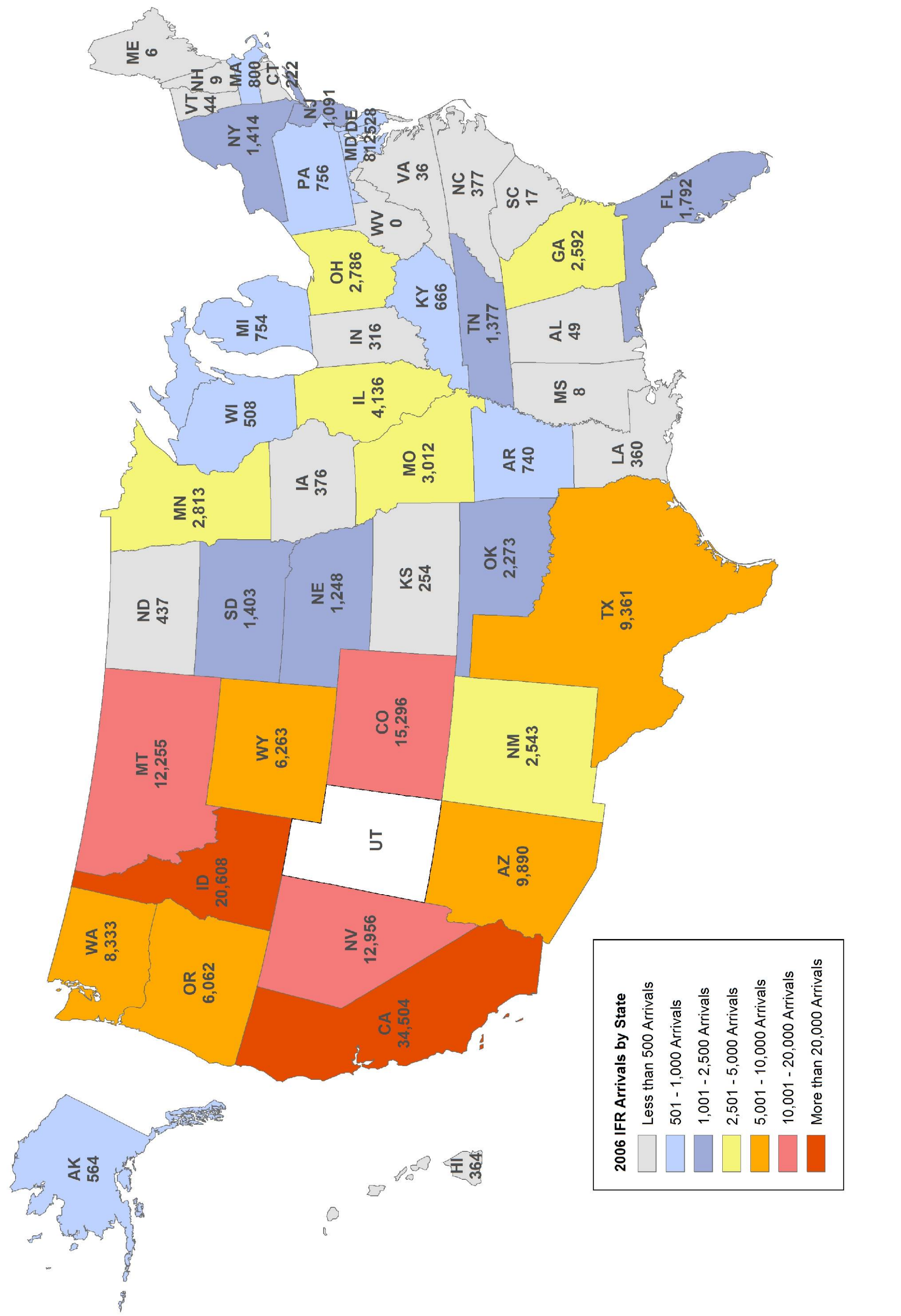
Source: 2003, US Census

Airports accommodating Instrument Flight Rule (IFR) operations from outside Utah

To identify airports in Utah that provide the greatest contribution to the national air transportation system and airports serving business related operations, IFR flight plan data for calendar year 2006 was reviewed. Specifically, the number of IFR arrivals conducted by aircraft originating outside the State of Utah to each of the system airports was identified.

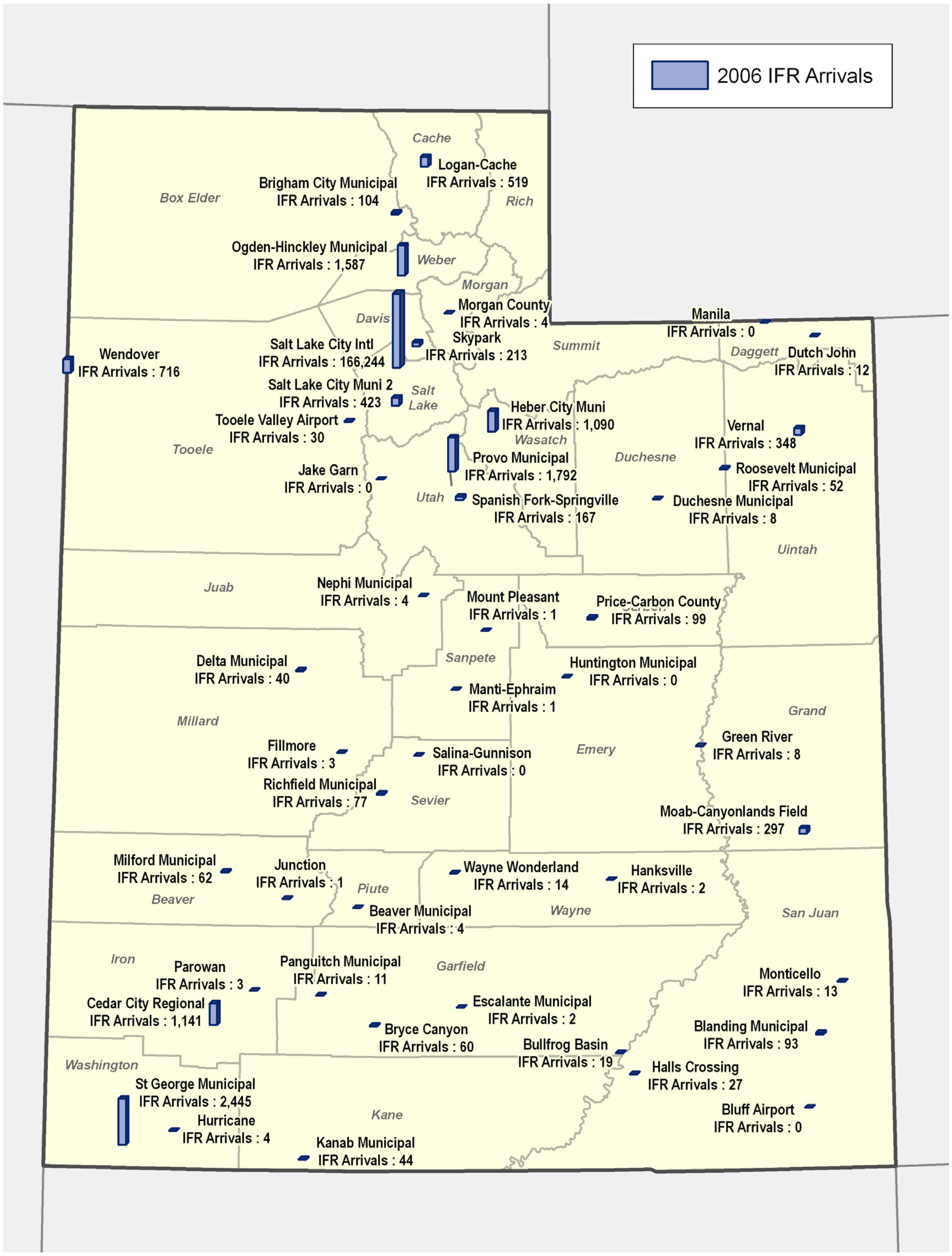
The majority of IFR operations in Utah, particularly those originating outside Utah, are attributable to airline, air-cargo and general aviation business aircraft activity. **Exhibit 5-3** identifies the number of IFR operations in each state that originated outside of Utah with an airport in Utah as a destination in 2006. California had the greatest number of originations primarily due to several cities in California having frequent non-stop scheduled air service to Salt Lake City International. As would be expected, states in the surrounding western United States had the highest number of originations, as it is possible for a wider range of aircraft to travel non-stop from these states to Utah. **Exhibit 5-4** illustrates the number of IFR arrivals that occurred at each system airport during calendar year 2006. Salt Lake City International accommodated by far the greatest number of IFR operations due to the presence of scheduled air service, several air cargo carriers as well as a high level of general aviation business class aircraft activity. Excluding Salt Lake City International, St. George Municipal, Ogden and Provo airports received the highest number of IFR arrivals from outside the state. All three of these airports have the facilities and services available to accommodate the majority of general aviation business class aircraft and are located in close proximity to many business and tourism destinations. The number of IFR arrivals during 2006 ranged from over 166,000 at Salt Lake City International to none at several system airports. **Table 5-1** identifies the total number of IFR arrivals at each system airport that originated from outside Utah. Additionally the table identifies the five most common states that IFR flights originated from. The top four airports in Utah receiving the greatest numbers of IFR arrivals from outside the state all received the greatest number of arrivals from California.

Exhibit 5-3
Utah Airport 2006 IFR Operations from Outside Utah



Source: GCR & Associates, Wilbur Smith Associates, 2007

Exhibit 5-4
Utah Airport 2006 IFR Arrivals



Source: 2006, GCR & Associates

Table 5-1
2006 IFR Arrivals Originating Outside Utah

Associated City	Airport Name	UCASP Classification	Total IFR Arrivals from outside Utah	Top Five Origin States for IFR Arrivals (State Abbreviation – IFR Arrivals)				
Salt Lake City	Salt Lake City International	International	166,244	CA - 31,804	ID - 19,823	CO - 14,264	MT - 11,984	NV - 10,607
St George	St George Municipal	National	2,445	CA - 1,045	NV - 807	AZ - 159	ID - 108	CO - 86
Provo	Provo Municipal	Regional	1,792	CA - 400	NV - 226	AZ - 215	ID - 195	CO - 156
Ogden	Ogden-Hinckley Municipal	Regional	1,587	CA - 209	ID - 181	WY - 161	CO - 134	AZ - 103
Cedar City	Cedar City Regional	Regional	1,141	NV - 666	CA - 158	AZ - 53	CO - 47	NM - 43
Heber	Heber City Municipal	Regional	1,090	CA - 308	AZ - 166	CO - 161	NV - 74	TX - 43
Wendover	Wendover	National	716	NV - 248	TX - 86	CA - 65	WA - 47	WI - 40
Logan	Logan-Cache	Regional	519	ID - 107	CA - 99	AZ - 62	WA - 47	CO - 41
Salt Lake City	Salt Lake City Muni 2	Regional	423	CA - 77	NV - 73	AZ - 66	CO - 52	ID - 30
Vernal	Vernal	Regional	348	WY - 81	CO - 70	OK - 43	TX - 36	NM - 33
Moab	Moab-Canyonlands Field	Regional	297	NM - 82	CO - 60	CA - 54	TX - 17	NV - 17
Bountiful	Skypark	Regional	213	WY - 57	AZ - 35	CA - 29	ID - 24	NV - 17
Spanish Fork	Spanish Fork-Springville	Regional	167	CA - 51	AZ - 27	NV - 21	WY - 13	ID - 13
Brigham City	Brigham City Municipal	Regional	104	CA - 48	CO - 14	NV - 12	WA - 4	TX - 4
Price	Price-Carbon County	Regional	99	CO - 20	TX - 14	WY - 9	PA - 8	NV - 8
Blanding	Blanding Municipal	Community	93	CO - 31	AZ - 24	CA - 18	NM - 7	NV - 4
Richfield	Richfield Municipal	Regional	77	NV - 12	CA - 10	ID - 8	AZ - 8	CO - 7
Milford	Milford Municipal	Community	62	CO - 17	CA - 10	MT - 6	ID - 6	NV - 5
Bryce Canyon	Bryce Canyon	Community	60	CA - 26	AZ - 7	NV - 6	NM - 3	ID - 3
Roosevelt	Roosevelt Municipal	Community	52	CO - 17	WY - 8	TX - 5	CA - 5	NM - 4
Kanab	Kanab Municipal	Regional	44	CA - 13	AZ - 8	NV - 6	NM - 6	TX - 4
Delta	Delta Municipal	Community	40	CA - 15	CO - 7	ID - 5	NV - 4	AZ - 4
Tooele	Tooele Valley Airport	Regional	30	CO - 7	AZ - 6	CA - 5	ID - 4	MT - 3
Halls Crossing	Halls Crossing	Local	27	CO - 14	CA - 4	AZ - 4	FL - 2	NV - 1
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Local	19	CO - 15	NV - 1	NM - 1	CA - 1	AZ - 1

Table 5-1, Continued
2006 IFR Arrivals Originating Outside Utah

Associated City	Airport Name	UCASP Classification	Total IFR Arrivals from outside Utah	Top Five Origin States for IFR Arrivals (State Abbreviation – IFR Arrivals)				
Loa	Wayne Wonderland	Local	14	ID - 6	CA - 6	OK - 1	NV - 1	
Monticello	Monticello	Community	13	CO - 6	WA - 2	WY - 1	TX - 1	NM - 1
Dutch John	Dutch John	Local	12	CO - 6	PA - 2	NV - 2	AZ - 2	
Panguitch	Panguitch Municipal	Community	11	CA - 7	NV - 2	WY - 1	CO - 1	
Green River	Green River	Community	8	NV - 2	WY - 1	WI - 1	OK - 1	ID - 1
Duchesne	Duchesne Municipal	Local	8	CA - 2	AZ - 2	OR - 1	NV - 1	ID - 1
Hurricane	Hurricane	Regional	4	TX - 1	SD - 1	CA - 1	CO - 1	
Morgan	Morgan County	Regional	4	AZ - 2	NV - 1	CO - 1		
Nephi	Nephi Municipal	Regional	4	WY - 1	NV - 1	ID - 1	CO - 1	
Beaver	Beaver Municipal	Community	4	CA - 2	WY - 1	WA - 1		
Fillmore	Fillmore	Community	3	NV - 2	ID - 1			
Parowan	Parowan	Community	3	CA - 2	MT - 1			
Escalante	Escalante Municipal	Community	2	NV - 1	CA - 1			
Hanksville	Hanksville	Local	2	WY - 1	KS - 1			
Manti	Manti-Ephraim	Community	1	CA - 1				
Junction	Junction	Local	1	CA - 1				
Mount Pleasant	Mount Pleasant	Local	1	MT - 1				
Eagle Mountain	Jake Garn	Community	0					
Bluff	Bluff Airport	Local	0					
Huntington	Huntington Municipal	Local	0					
Manila	Manila	Local	0					
Salina	Salina-Gunnison	Local	0					

Source: GCR & Associates, Wilbur Smith Associates, 2007

Airports accommodating emergency medical flights in Utah

Due to the rural and remote nature of large portions of Utah, airports provide a vital transportation link for many critically ill and injured patients needing urgent medical care. Following a serious or traumatic injury, the first hour can be the most time-critical period during which an injured person's mortality rate can be significantly reduced if immediate and appropriate medical care can be provided. The benefits of immediate treatment by medical personnel at an on-scene emergency and rapid transport of the patient have been well-documented, resulting in hospitals and medical centers utilizing aircraft for quickly reaching critically-injured or seriously-ill patients.

Through information obtained from the two primary emergency medical flight providers in Utah (IHC Life Flight and U of U AirMed) the number of times each airport in Utah was used to transport ill or injured patients was identified. The operations were performed solely by fixed wing aircraft and do not include helicopter operations. The majority of the emergency medical flight operations originated and returned to Salt Lake City International, while some operations originated at the St. George airport, where an emergency medical aircraft is often placed on standby.

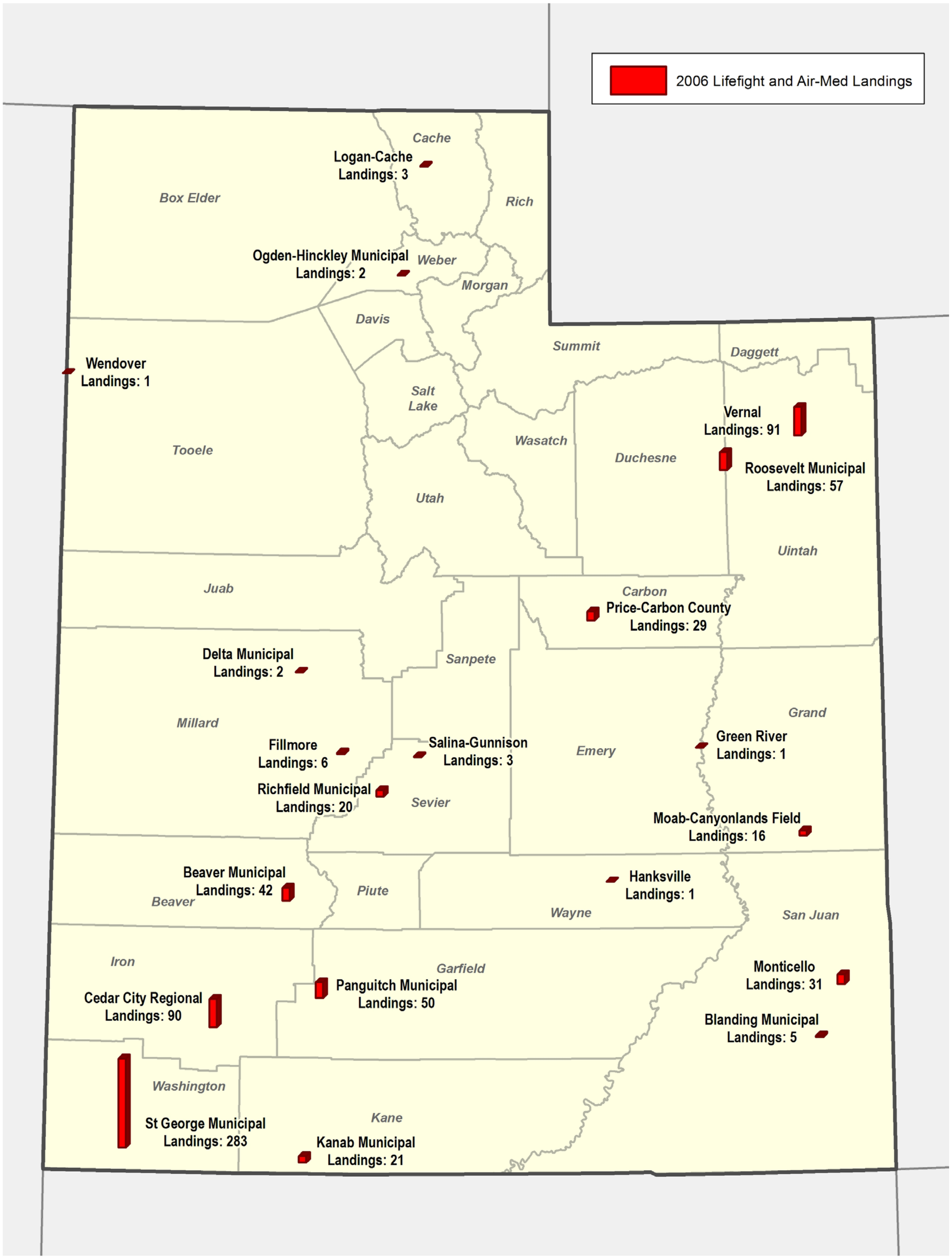
Exhibit 5-5 identifies the number of times AirMed or Life Flight used any of the state's airports in 2006 for medical transport purposes. The St. George Municipal Airport was by far the most frequently used facility, transporting many people requiring medical care and facilities only available at hospitals in the Salt Lake City area. Airports further away from the Salt Lake City area tended to have higher numbers of operations, as patients closer to the Salt Lake City area are more often transported via helicopter or ambulance.

Through discussion with the emergency medical flight providers, the following airport facilities were identified as being basic requirements for use by emergency medical aircraft:

- Runway length of 4,000 feet or greater
- Runway lighting
- Instrument approach procedure

The majority of the airports currently used by emergency medical operations meet these basic requirements with a few exceptions. Among the operations conducted by the two primary EMS operators in Utah, approximately 18 percent of the total 2006 operations occurred at an airport without an instrument approach procedure. Subsequent chapters of this study will identify these deficiencies and make recommendations for improvements.

Exhibit 5-5
2006 Life Flight and Air-Med Landings



Source: IHC Life Flight, Uof U Airmed, Wilbur Smith Associates

GOAL CATEGORY: ECONOMIC SUPPORT

Airports play a key role in supporting and promoting economic activity in Utah. Employers statewide consider the existence and efficiency of air transportation facilities when expanding or developing in a given geographic area. In business surveys conducted throughout the U.S., employers were asked to rank the importance of commercial service and general aviation airports to other factors in selecting a new site. In almost every survey, the location of a commercial service airport ranks in the top three factors considered, while the location of a general aviation airport typically ranks in the top 10. Many of the top national firms use general aviation aircraft in their business to transport employees and also have customers and suppliers who visit via general aviation airports.

Airports themselves are not typically generators of demand, however, their presence and utility lend assistance in economic growth and diversification. In addition to adequate airport facilities, market areas that airports serve must possess other characteristics that make them candidates for the attraction and retention of various economic development activities.

For this goal category, the relationship between the economic activity of the region and the demand for aviation services was examined. The following were evaluated for this section based on their proximity to the airport system's 30 minute drive time service areas:

- Location of significant tourism destinations in relation to Utah airports
- Location of oil and gas exploration and drilling activity in relation to Utah airports
- Percent of population with access to an airport supporting business jet operations
- Percent of population within a 30 minute drive time of an airport capable of supporting VLJ operations
- Percent of state employment within 30-minute drive time of a system airport
- Businesses with a propensity to use aviation within a 30-minute drive time of a system airport

Location of significant tourism destinations in relation to Utah airports

Tourism in Utah plays a significant role in the overall economic health of the state. According to the *2006 Utah Tourism at a Glance* report published by the Utah Office of Tourism, jobs in the travel and tourism-related industries comprised approximately 10 percent of Utah's total non-farm employment. Additionally the report indicates that 75 percent of the measurable economic impacts of tourism in the State of Utah are attributable to activity in six of Utah's 29 counties. These counties include Salt Lake, Utah, Davis, Weber, Summit and Washington. These counties are also the most populated in the state and contain the highest concentrations of employment.

While other counties in Utah may receive less in terms of tourism and visitor spending, many rural communities in Utah are extremely dependent on tourism dollars. Fewer employment opportunities exist in many rural areas of the state causing greater dependence on tourism-related industries. Tourism dominates the economies of counties in the northeast and southeast regions of the state, comprising a significant portion of the counties' employment and economic activity. As indicated above, counties in the Wasatch Front area receive the majority of tourism-related impacts in Utah. However, because of the large employment base and diversified economy of these areas, tourism makes an important, but less significant contribution to the overall economy of these counties versus elsewhere in the state. Analysis indicates that the airports along the Wasatch Front and St. George areas clearly experience the greatest demand from visitors traveling to Utah, while the airports in the more rural areas of the state experience far less demand. However, the economies in these lesser demand areas are much more dependant on tourism-related activities, making efficient access to these areas of the state even more essential. **Exhibit 5-6** identifies the locations of major tourism and visitor destinations in relation to Utah's airports. The primary visitor destinations in Utah include the National Parks and National Recreation areas, ski resorts, and Temple Square.

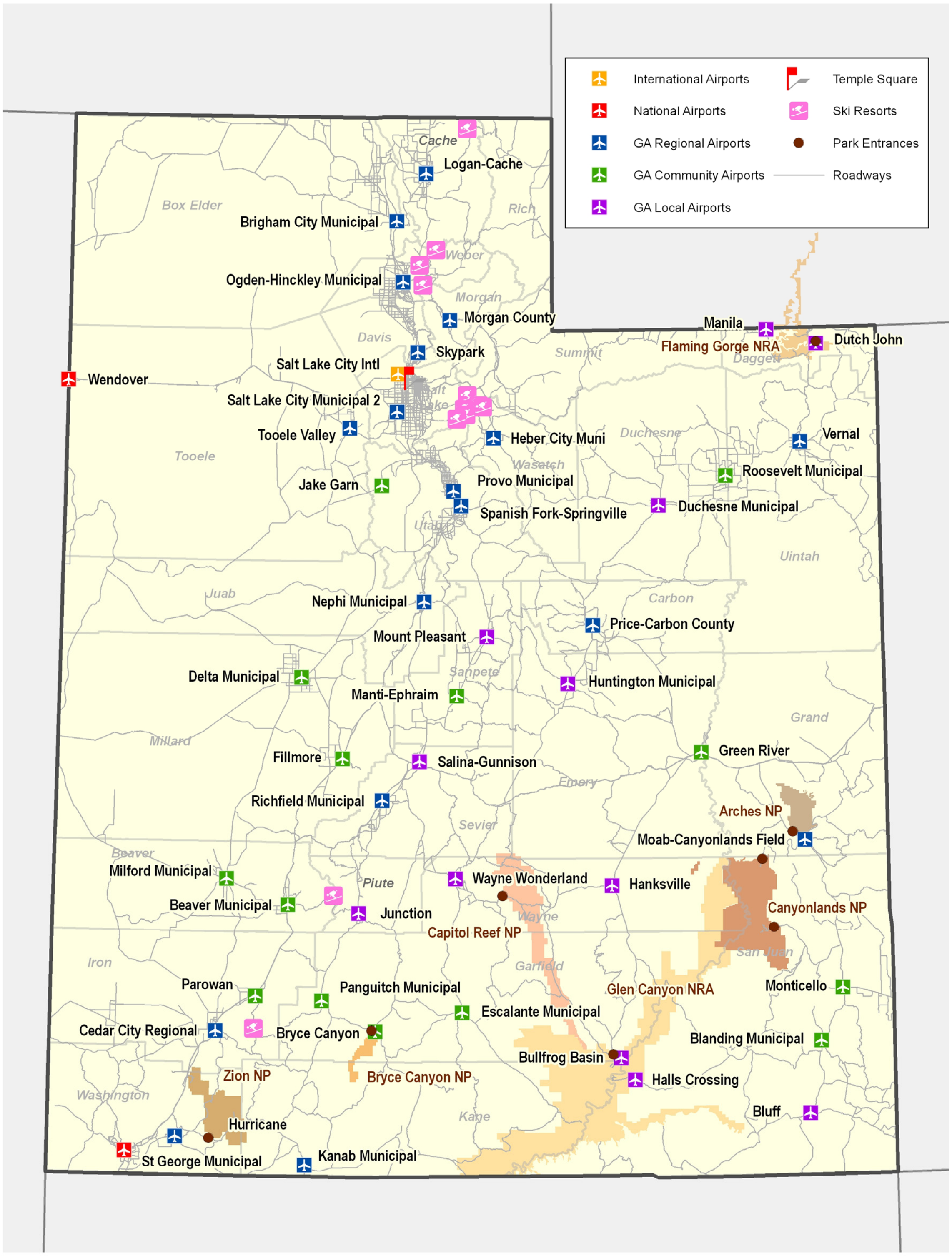
While the state's commercial air service airports provide reasonable access to Utah's major tourism destinations, the state's general aviation airports provide excellent access to visitor destinations throughout Utah. Examples include Bullfrog Basin, Halls Crossing, and Dutch John airports which regularly serve visitors who travel to the Glen Canyon and Flaming Gorge National Recreation Areas via general aviation aircraft.

Location of oil and gas activity in relation to Utah airports

Recent increases in energy costs have boosted oil and gas exploration in Utah. Oil and gas exploration primarily occurs in the eastern portion of the state. Additionally, Utah has some of the world's largest supplies of oil shale, also located in the eastern portion of the state. The oil shale deposits create the potential for significant increases in demand for aviation services in the region should it become technologically and economically feasible to process oil shale into a usable energy resource. **Exhibit 5-7** identifies the locations of oil and gas fields, oil and gas deposits, and oil shale deposits in Utah. The Vernal, Price and Richfield airports have all recently experienced increased activity as a result of oil and gas exploration. It is anticipated that these airports will continue to experience the majority of demand for aviation services generated by the oil and gas industry.

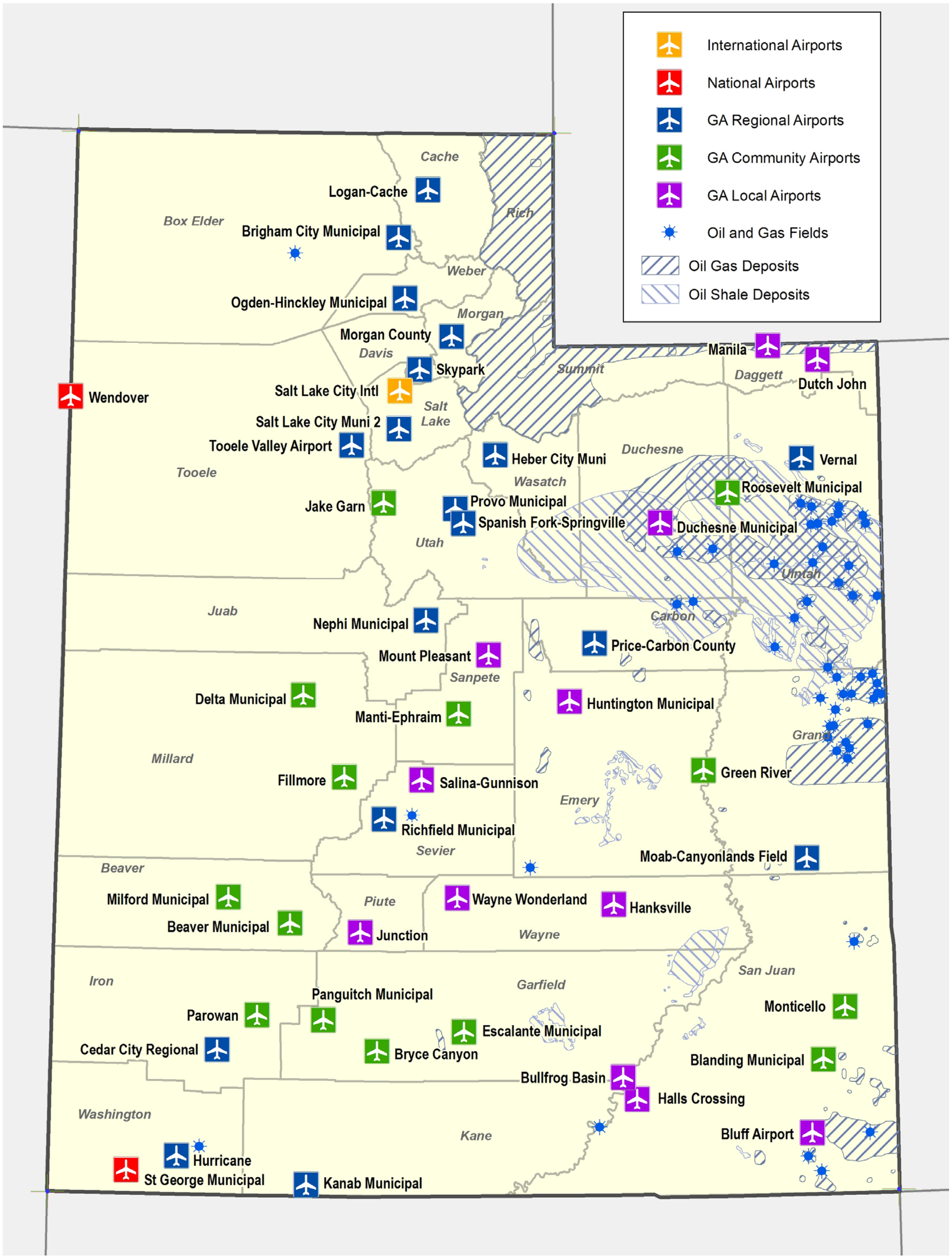
The number and location of airports in Utah is sufficient to serve the needs of the oil and gas industry. However, the facilities and services at some of the smaller airports located near oil and gas activity may not be sufficient to serve the needs of larger aircraft typically used by oil and gas companies. The ability of these airports to serve the projected demand from the oil and gas industry will be examined in subsequent chapters of this plan.

Exhibit 5-6
Major Tourism Destinations in Relation to Utah's Airports



Source: Utah AGRC, Wilbur Smith Associates

Exhibit 5-7
Oil and Gas Activity in Relation to Utah Airports



Source: Utah AGRC, Wilbur Smith Associates

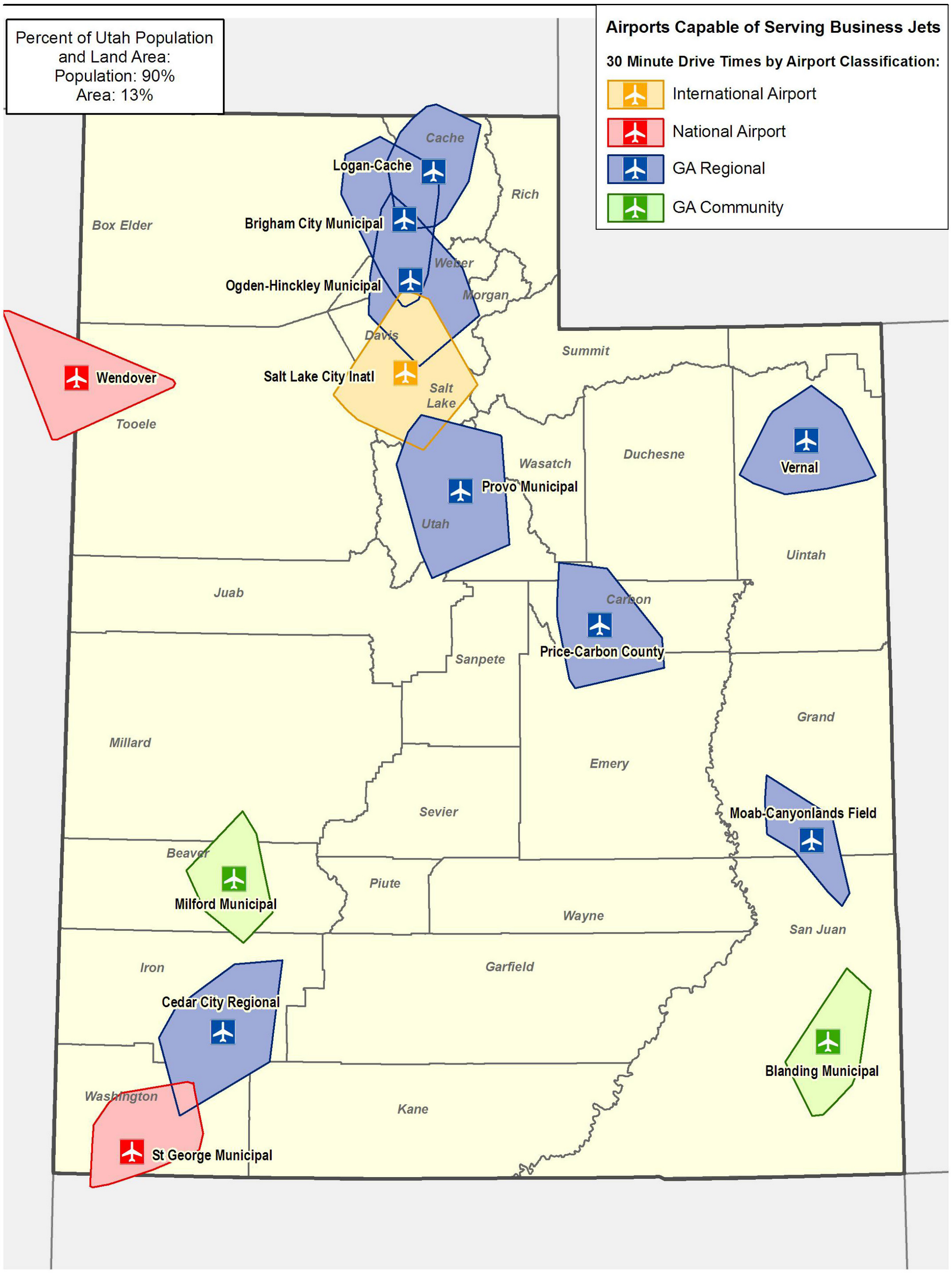
Percent of population with access to an airport supporting business jet operations

One of the fastest growing segments of general aviation is the use of business jet aircraft. Due to the size, weight, and speed of these aircraft, airport facilities must be specifically designed to accommodate this type of aircraft.

Exhibit 5-8 depicts existing airports in Utah capable of accommodating business jet aircraft. The determining factors in identifying these airports include runway length and width, pavement strength, an instrument approach, and availability of Jet A fuel. A planning "rule of thumb" indicates that business jet aircraft typically require at least 5,000 feet of paved runway length to regularly operate at an airport. Additionally, the strength of the airfield pavement must be sufficient to support the heavier loads imposed by these aircraft. For this analysis, a pavement strength of 25,000 pounds single wheel gear (SWG) was determined to be the minimum requirement to support regular business jet operations. The location of these business jet-capable airports was compared to the population to determine the accessibility of these airports.

Approximately 90 percent of Utah's population is within a 30-minute drive time of an airport capable of supporting business jet operations. The land coverage provided by these airports is approximately 13 percent of the state.

Exhibit 5-8
Utah Airports Capable of Serving Business Jets



Source: UDOA, Wilbur Smith Associates, 2007

Percent of population within a 30 minute drive time of an airport capable of supporting VLJ operations

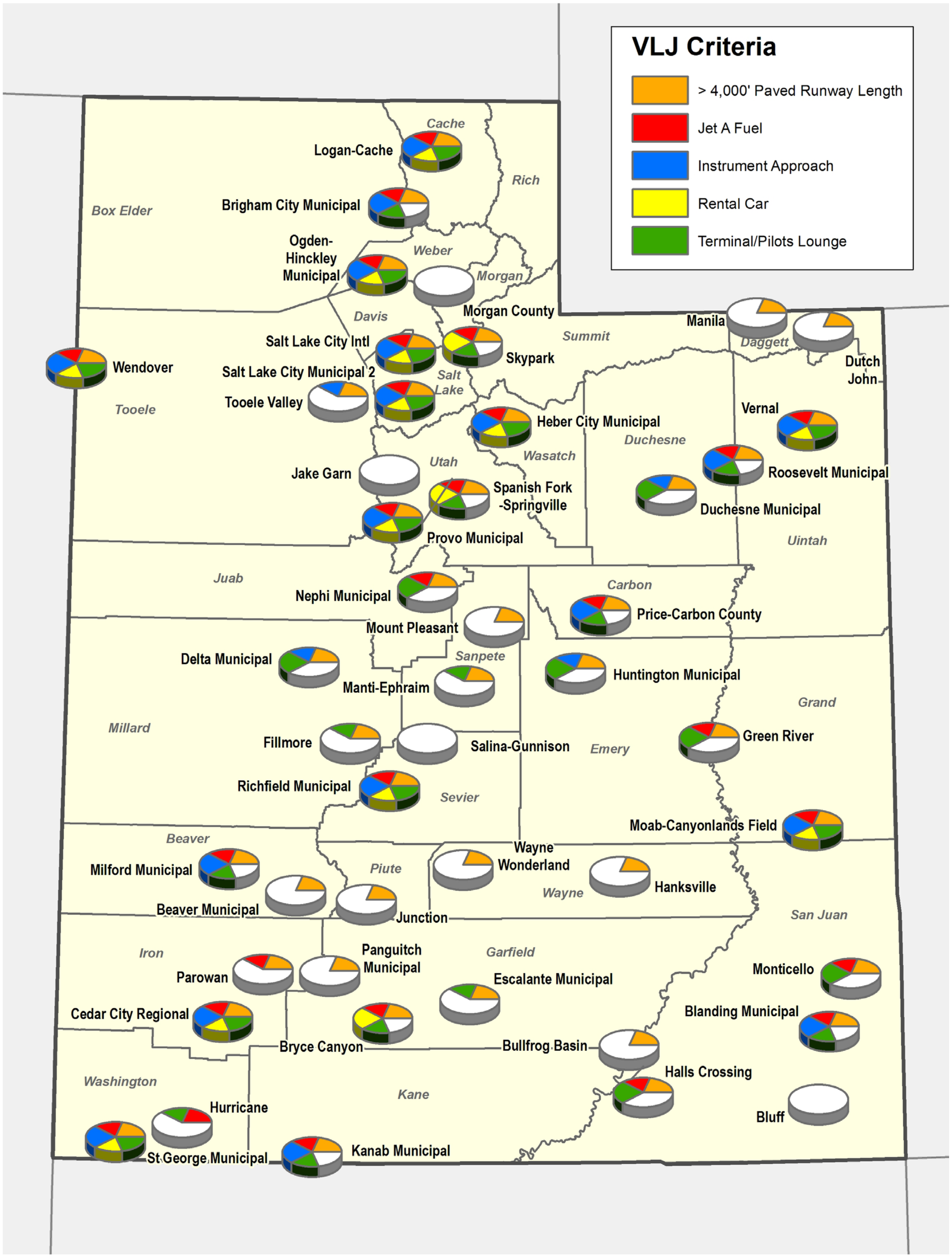
Future air travel in the United States and Utah is poised to change with the advent of the Very Light Jet (VLJ). These aircraft cost substantially less than typical business jet aircraft, in terms of acquisition and operating costs. These cost savings are projected to lower the cost of travel by general aviation aircraft, making utilization of this type of travel more affordable to a broader segment of the general public. VLJs are also anticipated to increase point-to-point air travel with travelers using smaller airports instead of larger commercial airports.

In order for communities to realize the full economic benefits of this emerging form of air travel, the state's airports must be prepared to provide certain basic services to adequately accommodate this future travel demand. The following airport criteria have been determined to be the general requirements to accommodate VLJ aircraft and passengers and are listed by order of importance:

- Paved Runway Length of 4,000' or Greater
- Instrument Approach
- Availability of Jet A Fuel
- Rental Cars
- Terminal\Pilots Lounge

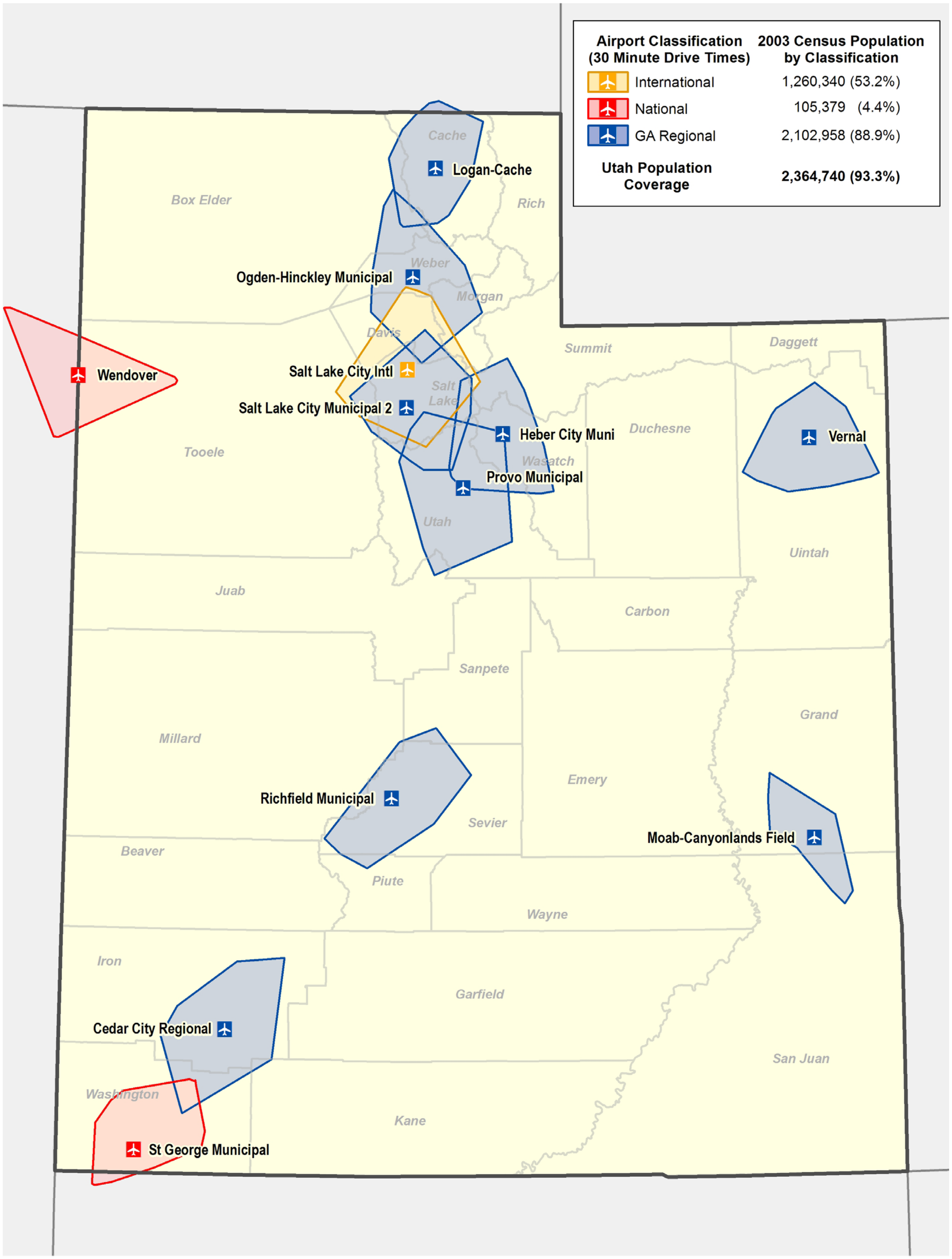
Exhibit 5-9 identifies the availability of these items at each system airport. Twelve of the state's airports possess all of the criteria necessary to fully accommodate VLJ aircraft. As shown in **Exhibit 5-10** the 30-minute drive times associated with these 12 airports comprise over 93 percent of the state's population. It should be noted that a runway length of at least 4,000 feet is the only criteria that is essential for the majority of VLJ operations. However, the lack of the other facilities and services most notably an instrument approach procedure and the availability of Jet A fuel, are likely to limit the utility of the airport to VLJ users, making the airport a much less desirable facility. Among the 47 airports in the Utah system, 18 provide the three essential criteria required by VLJ operators: 4000' runway length, instrument approach and Jet A fuel. The Blanding, Brigham City, Kanab, Milford, Price and Roosevelt airports provide all the essential facilities and services required by VJL aircraft with the exception of rental cars.

Exhibit 5-9
VLJ Facilities and Services Available at Utah Airports



Source: 2007, UDOA, Wilbur Smith Associates

Exhibit 5-10
Airports with Facilities and Services Supporting VLJ Operations



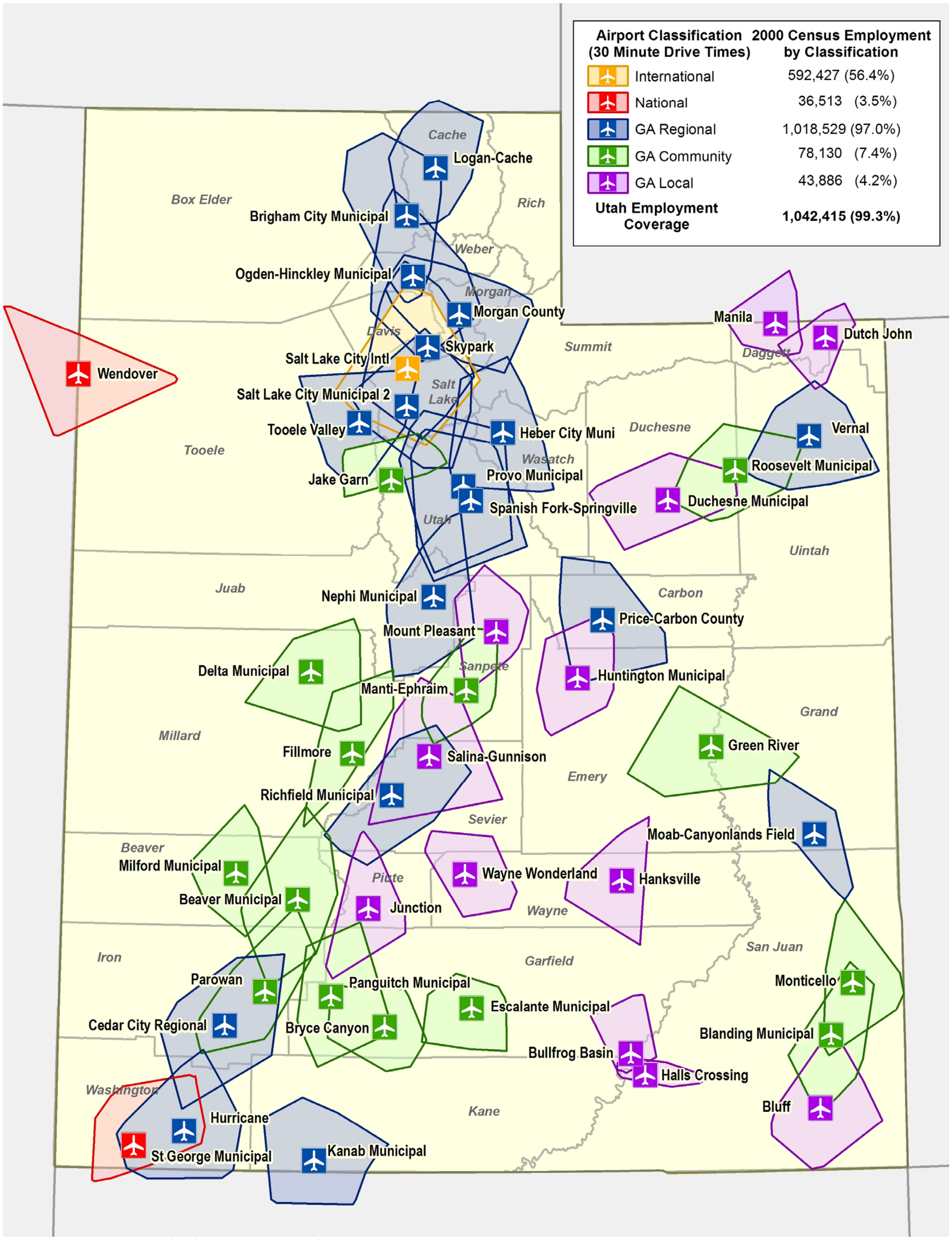
Source: US Census 2003, Wilbur Smith Associates

Percent of state employment within 30-minute drive time of a system airport

In order for airports in the Utah system to provide support to state and local economies, it is important that airports provide adequate coverage and service to areas of employment throughout the state. Employment levels in each airport service area are representative of the number of potential businesses (and their employees) that could rely on aviation services. Businesses throughout the state utilize airports either as users or as businesses that are reliant on business travelers or tourists visiting their location. Businesses also utilize aviation services such as air cargo to transport goods or packages.

Employment data for Utah was obtained from Woods and Poole Inc. In order to analyze the levels of employment in relation to the states airports; the employment figures were assigned to block group level Census data for analysis of each 30-minute service area. Assigning the employment figures to the block group level Census data provides a means to proportionately assign appropriate employment statistics to each airport service area. **Exhibit 5-11** shows that more than 99 percent of the state's employment is within a 30-minutes drive time of one or more system airports. Approximately 56 percent of the state's employment is within a 30 minute drive time of the Salt Lake City International Airport, while 97 percent of the state's employment lies within 30 minutes of an airport in the GA Regional category.

Exhibit 5-11
Employment within 30-minute Drive Time of System Airports



Source: 2000 U.S. Census, Wilbur Smith Associates, 2007

Businesses with a propensity to use aviation within a 30-minute drive time of a system airport

In order to assess business-related demand on Utah's airport system, employers or businesses within Utah with a propensity to utilize aviation services were identified. The North American Industry Classification System (NAICS) codes of businesses utilizing aviation services were identified through thousands of business survey responses gathered by Wilbur Smith Associates while conducting airport economic impact and air service studies throughout the U.S., including economic analyses for Utah's airports. Businesses in these NAICS codes were obtained for Utah to determine their locations relative to system airports.

Table 5-2 presents the number of businesses identified within each NAICS code, and the minimum numbers of employees required in each category for the business to be included in this analysis. Businesses within each NAICS code were identified that employ between 20 and 100 employees, depending on the type of business. Limiting this analysis to businesses having a minimum the number of employees identified in Table 5-2 helps to identify businesses that are most likely to place measurable demand on Utah's system of airports. **Exhibit 5-12** depicts the location of these businesses in relation to the state's airports. Also shown are 30-minute drive time service areas for each system airport.

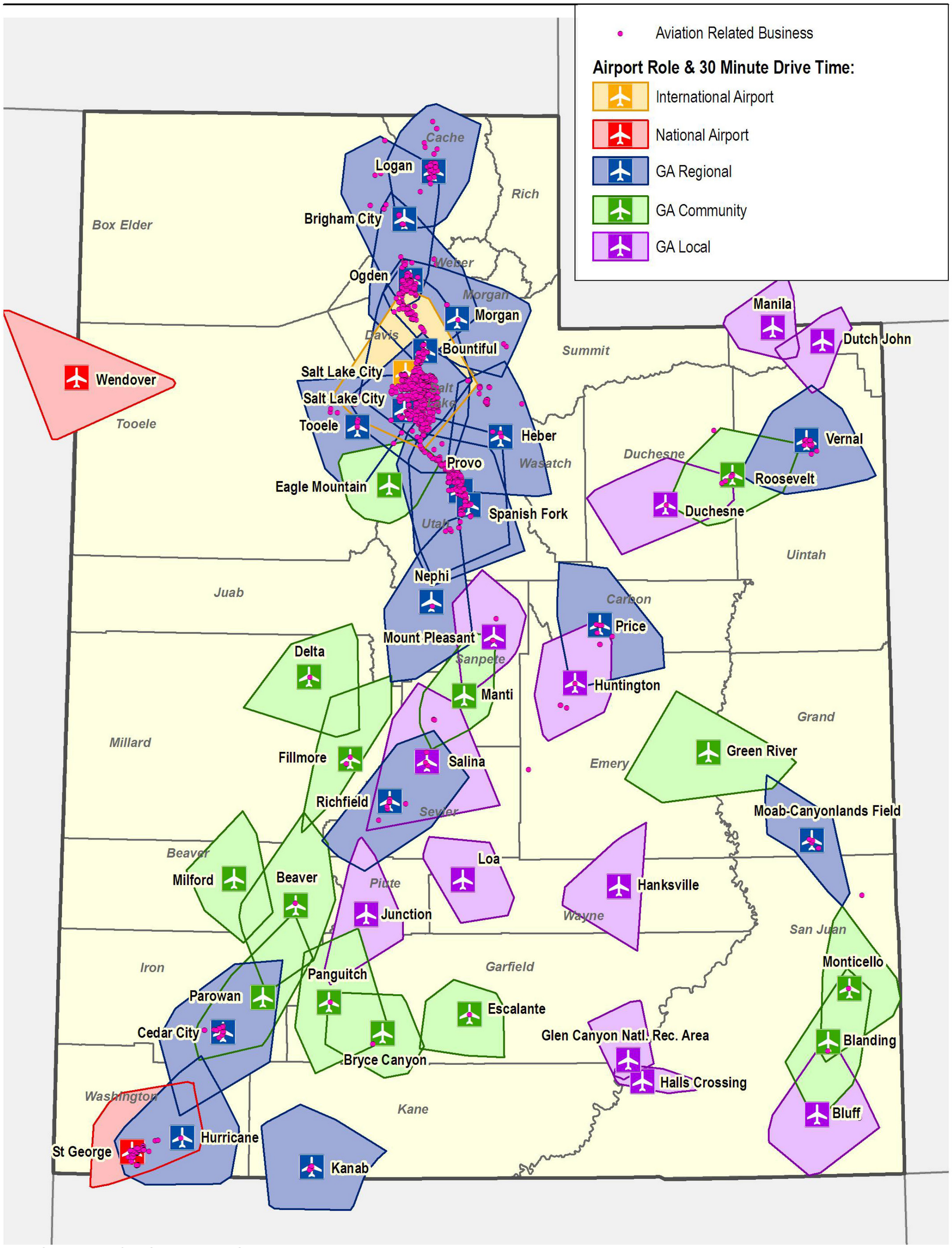
As would be expected, the majority of businesses are located in Utah's larger cities, with Salt Lake City International Airport being located near the greatest number of businesses. Among the 1,482 businesses identified in this analysis, all but three are within 30 minutes driving distance from an airport in the state system, and all but 20 are within 30 minutes driving distance of a Regional, National, or International airport.

Table 5-2
Utah Businesses Likely to Utilize Aviation Services

NAICS	Minimum Number of Employees	Business in Utah
Professional Services	20	748
Manufacturing	100	275
Wholesale Trade	100	177
Health Services	100	143
Finance and Insurance	100	83
Communications	100	24
Oil and Gas Extraction	50	23
Utilities	100	9
Total		**1,482**

Source: InfoUSA, Wilbur Smith Associates, 2007

Exhibit 5-12
Businesses with a Propensity to Utilize Aviation Services



Source: InfoUSA, Wilbur Smith Associates, 2007

GOAL CATEGORY: FACILITIES AND ACCESSIBILITY

An important goal of any airport system is to provide physical facilities to meet airport user needs. The mission of airports is to provide quick, convenient, and safe transportation of people and goods. An adequate airport system requires certain facilities to process the movement and storage of aircraft, and to meet the needs of the people who use airports.

The ability of any airport system to meet the accessibility goal can be determined in several ways. The facilities evaluation of the aviation system is determined by examining the ability of the airports to meet the facility and service objectives established for the role the airport plays in the system.

As discussed previously, air accessibility is influenced by factors such as the airport's type of approach and the availability of on-site weather reporting equipment. Ground accessibility can be measured by determining the coverage or availability of access provided by system airports to all geographic areas of the state. This is evaluated by determining what percentage of the state's population can access airports in the role classifications established for the study.

Performance measures used to evaluate the system's ability to provide adequate ground and air access and facilities are discussed below and include the following measures.

- Percent of population within a 30-minute drive-time of an airport with precision or non-precision instrument approach
- Percent of population and land area within a 30-minute drive time of each Utah airport role category
- Percent of airports meeting facility and service objectives
- Percent of population and land area within a 30-minute drive time of an airport included in the FAA National Plan of Integrated Airport Systems (NPIAS)
- Percent of registered pilots within a 30-minute drive time of a system airport

Percent of population within a 30-minute drive time of an airport with an instrument approach procedure

A published instrument approach procedure enables appropriately equipped aircraft to land at an airport during poor weather or instrument meteorological conditions (IMC). When the cloud level, or ceiling, is less than 1,000 feet above the ground and/or the forward visibility is less than three miles, IMC exists and often creates undesirable circumstances for arriving aircraft. The probability of landing at an airport in such conditions is increased with the availability of an instrument approach procedure. **Table 5-3** presents all system airports and their published approach capabilities. In Chapter Three – Airport Role Analysis, objectives for various facilities and services were developed for airports by system role. In terms of approaches, an objective has been established for National Airports to provide a precision instrument approach. GA

Regional Airports should have at least a non-precision straight-in approach, and GA Community Airports should have a non-precision approach. No approach objective was developed for GA Local Airports.

Exhibit 5-13 graphically depicts the Utah Airport System airports with published approach capabilities. This exhibit also identifies the percentage of Utah's population within a 30-minute drive time of an airport with instrument approach capability. Of the 47 airports in the Utah system, 22 (47 percent) have an instrument approach procedure. These airports serve 95 percent of Utah's population and cover 20 percent of the state's land area.

Table 5-3
Approach Procedures at Utah Airports

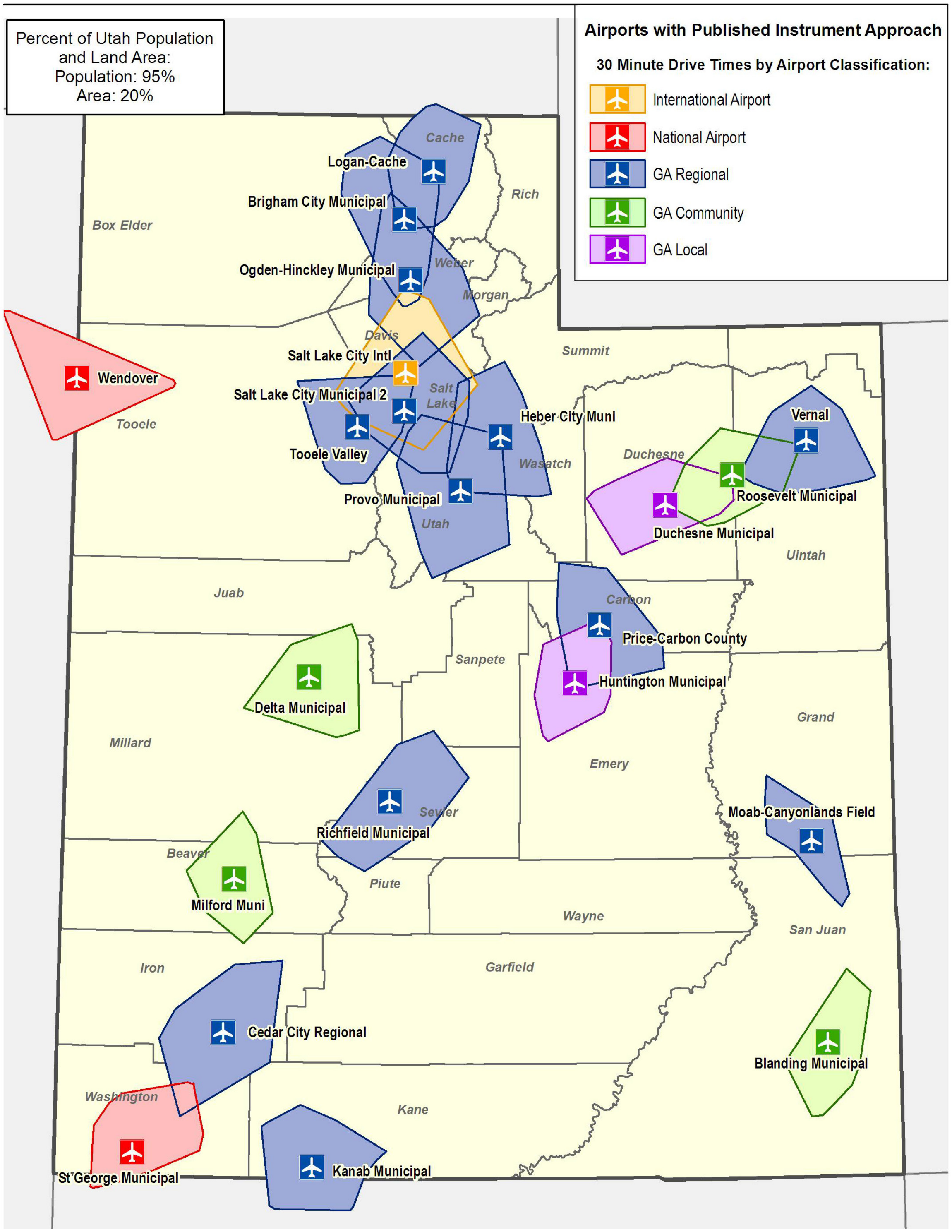
Associated City	Airport	Approach Category
International Airports		
Salt Lake City	Salt Lake City International	Precision
National Airports		
St. George	St. George Municipal	Non-Precision - Straight-in
Wendover	Wendover	Non-Precision - Straight-in
Regional Airports		
Bountiful	Skypark	Visual
Brigham City	Brigham City Municipal	Non-Precision - Straight-in
Cedar City	Cedar City Regional	Precision
Heber	Heber City Municipal	Non-Precision - Circling
Hurricane	Hurricane	Visual
Kanab	Kanab Municipal	Non-Precision - Straight-in
Logan	Logan-Cache	Non-Precision - Straight-in
Moab	Moab-Canyonlands Field	Non-Precision - Straight-in
Morgan	Morgan County	Visual
Nephi	Nephi Municipal	Visual
Ogden	Ogden-Hinckley Municipal	Precision
Price	Price-Carbon County	Non-Precision - Straight-in
Provo	Provo Municipal	Precision
Richfield	Richfield Municipal	Non-Precision - Straight-in
Salt Lake City	Salt Lake City Muni 2	Non-Precision - Straight-in
Spanish Fork	Spanish Fork-Springville	Visual
Tooele	Tooele Valley Airport	Non-Precision - Straight-in
Vernal	Vernal	Non-Precision - Straight-in

Table 5-3, Continued
Approach Procedures at Utah Airports

Associated City	Airport	Approach Category
Community Airports		
Beaver	Beaver Municipal	Visual
Blanding	Blanding Municipal	Non-Precision - Straight-in
Bryce Canyon	Bryce Canyon	Visual
Delta	Delta Municipal	Non-Precision - Straight-in
Eagle Mountain	Jake Garn	Visual
Escalante	Escalante Municipal	Visual
Fillmore	Fillmore	Visual
Green River	Green River	Visual
Manti	Manti-Ephraim	Visual
Milford	Milford Municipal	Non-Precision - Circling
Monticello	Monticello	Visual
Panguitch	Panguitch Municipal	Visual
Parowan	Parowan	Visual
Roosevelt	Roosevelt Municipal	Non-Precision - Straight-in
Local Airports		
Bluff	Bluff Airport	Visual
Duchesne	Duchesne Municipal	Non-Precision - Circling
Dutch John	Dutch John	Visual
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Visual
Halls Crossing	Halls Crossing	Visual
Hanksville	Hanksville	Visual
Huntington	Huntington Municipal	Non-Precision - Circling
Junction	Junction	Visual
Loa	Wayne Wonderland	Visual
Manila	Manila	Visual
Mount Pleasant	Mount Pleasant	Visual
Salina	Salina-Gunnison	Visual

Source: UDOA, Wilbur Smith Associates, 2007

Exhibit 5-13
Population Served by an Airport with an Instrument Approach



Source: 2003 U.S. Census, Wilbur Smith Associates, 2007

Percent of population and land area within a 30 minute drive time of each Utah airport category

The FAA generally recommends that system airports be within a 30-minute drive time of their intended users. GIS analysis presented in the exhibits below show that when all 47 system airports are considered, over 99 percent of Utah's population is within a 30-minute drive of at least one and, in some cases, multiple system airports. Physically, the 30-minute drive time coverage provided by all of the system airports is approximately 33 percent of Utah's land area. The GIS analysis was then conducted for the airports in each of the five roles to determine the percentage of the population and land area within a 30-minute drive time of the different airport roles. Airports in a higher role, such as the National category, are considered to meet if not exceed the minimum needs of GA Regional, GA Community and GA Local airport users. As a result, population coverage provided by a less demanding role also includes the compounded coverage provided by any of the higher roles. Although an airport in a higher role may provide the minimum facility and service objectives for an airport in a lower role, certain specialty aviation activities such balloon and glider operations are not always practical or warranted at busier, more demanding airports. For each of the associated graphics identifying population coverage, airports in a higher role are shown in addition to the coverage of the role that is exhibited.

The Salt Lake City International Airport is the only airport in the International category. The 30-minute drive time service area for this airport covers more than half of Utah's population, providing coverage to 53 percent of the people in the state as shown in **Exhibit 5-14**. This coverage represents approximately 1.6 percent of the land area in Utah.

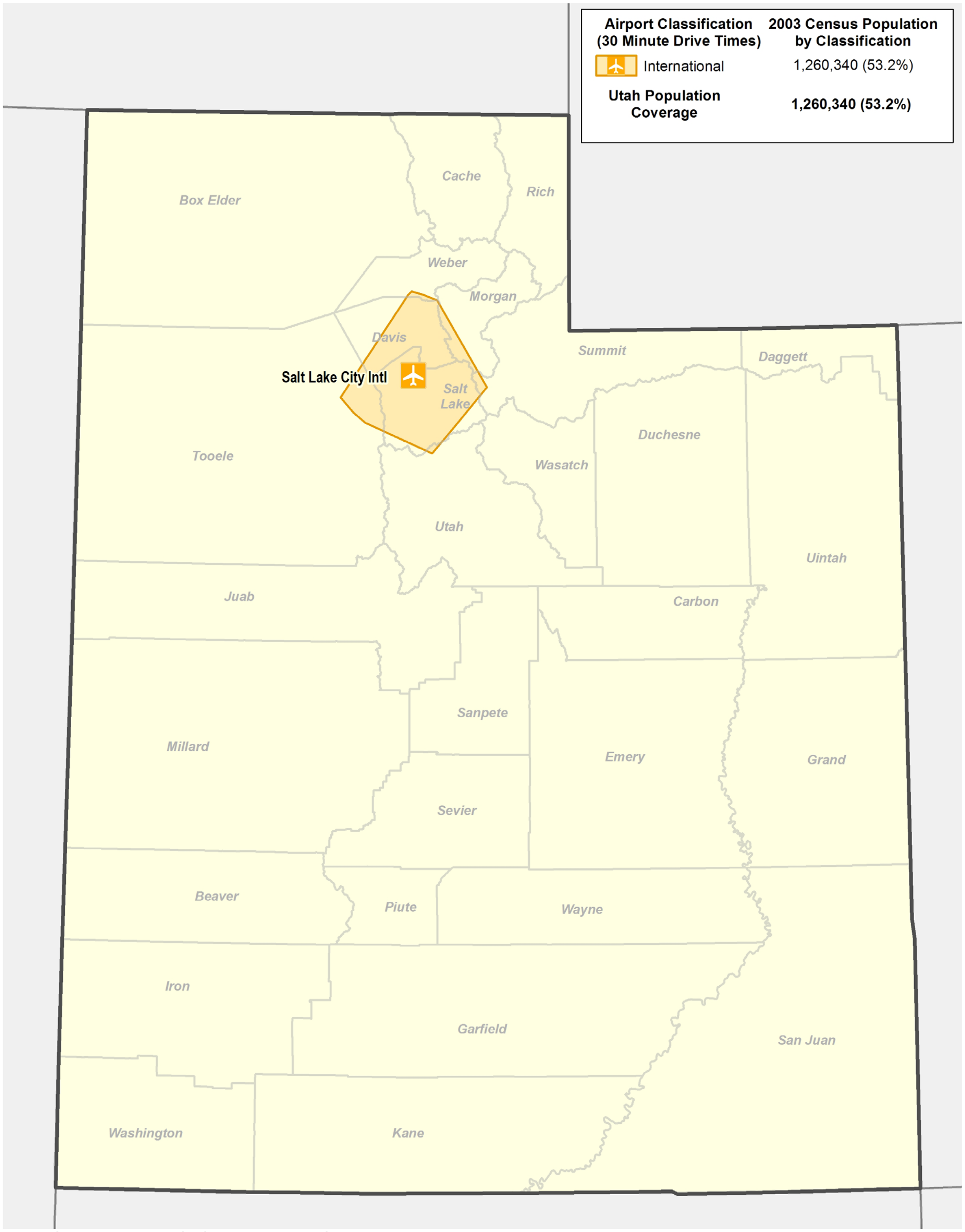
The two airports classified as National are within a 30-minute drive time of over 4 percent of Utah's population as identified in **Exhibit 5-15**. This coverage represents approximately 2 percent of the land area in Utah. Airports in this role include St. George Municipal located in the southwest corner of the state, and Wendover located west of Salt Lake City on the Utah-Nevada border. Combined coverage of airports in the International and National categories provide service to nearly 58 percent of the state's population.

GA Regional airports provide the greatest amount of coverage in Utah among the five role categories. **Exhibit 5-16** shows that over 96 percent of Utah's population lies within a 30-minute drive time of one or more of the 18 GA Regional airports. These airports also cover the greatest percentage of Utah's land area at nearly 15 percent. GA Regional airports provide some duplicate coverage already provided by International and National airports. When the overall coverage from the three airport categories is combined, approximately 97 percent of Utah's population is within a 30-minute drive time of an airport in one of these three categories.

The 14 airports in the GA Community role are located within a 30-minute drive time of nearly 8 percent of Utah's population. **Exhibit 5-17** shows that these airports provide most of their coverage in the central and southern portions of the state. The coverage provided by the GA Community airports 30-minute drive times is approximately 10 percent of Utah's land area. All of the airports in this role with the exception of Jake Garn and Roosevelt are located in the southern half of the state. When the coverage provided by GA Community airports is combined with that of the International, National and GA Regional, over 99 percent of Utah's population is within a 30-minute drive time of an airport in one of these four classifications.

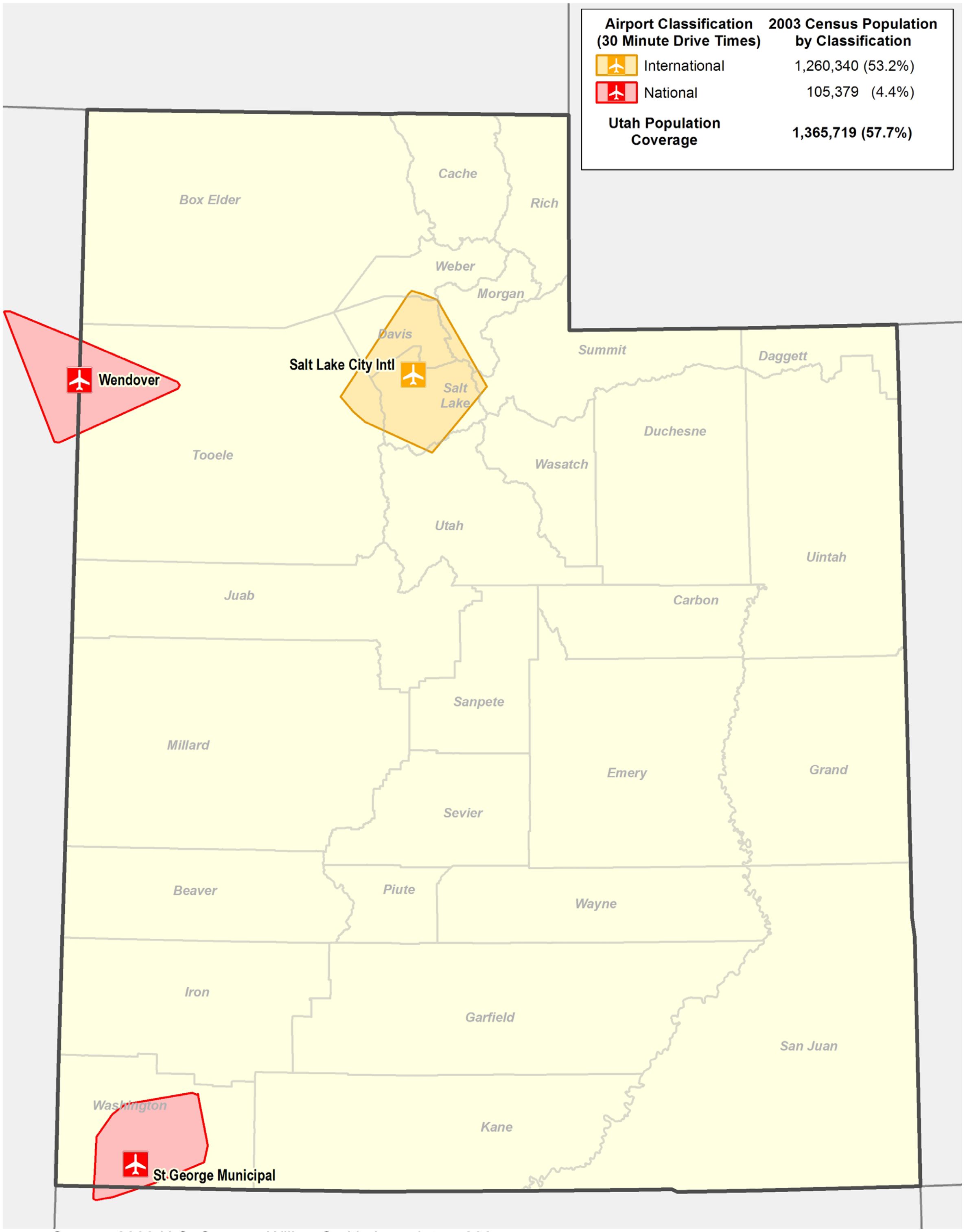
The Utah system of airports contains 12 airports in the GA Local category. These airports are located in some of the most rural areas of the state and as a result provide access to a limited segment of the state's population. **Exhibit 5-18** identifies the population coverage provided by the airports in this role. The airports in the GA Local category serve nearly 5 percent of the state's population and cover almost 3 percent of the state's land area. When combined, the five categories of airports in the Utah system provide access to 99.7 percent of Utah's population.

Exhibit 5-14
30-Minute Drive Time to International Airports



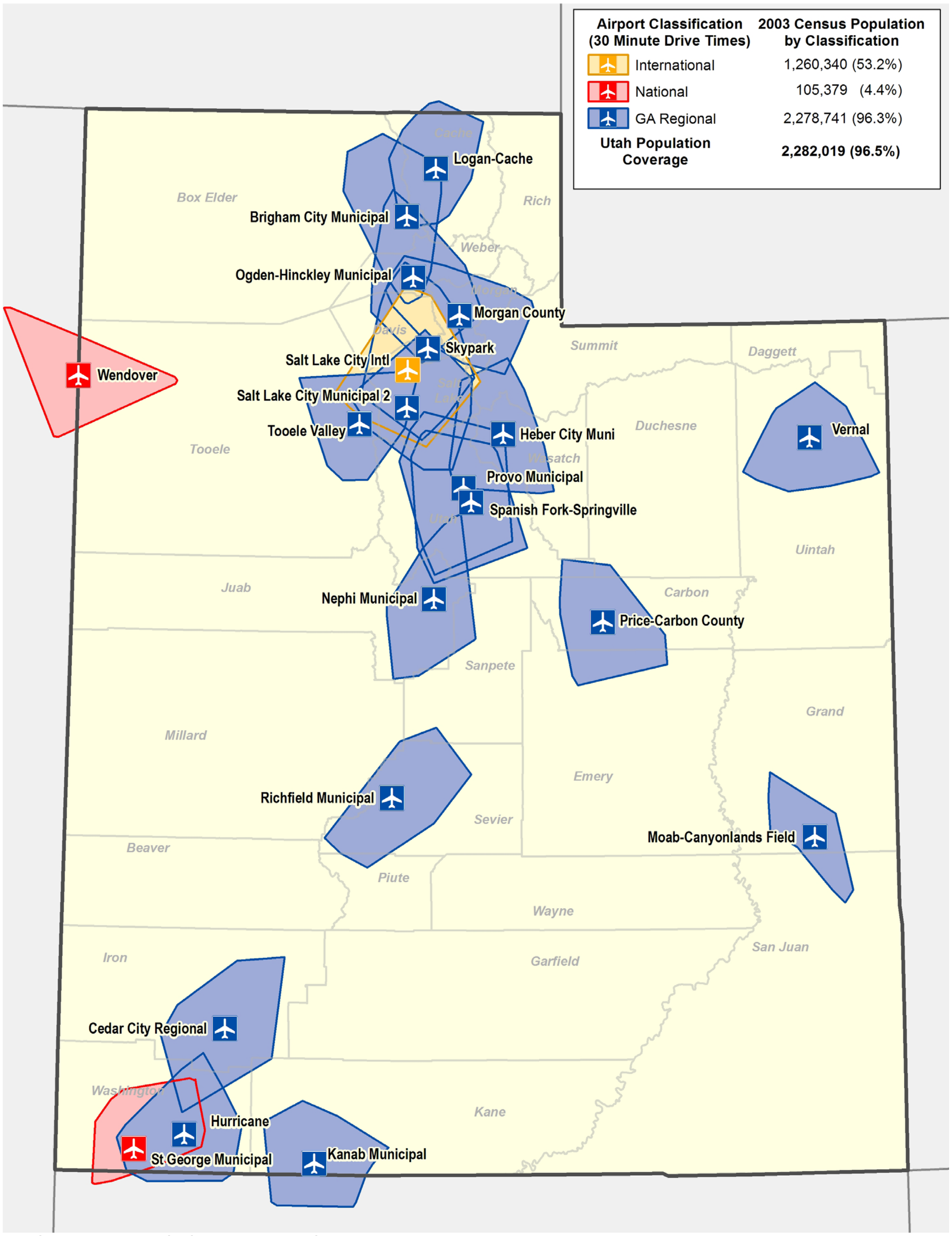
Source: 2003 U.S. Census, Wilbur Smith Associates, 2007

Exhibit 5-15
30-Minute Drive Time to National Airports



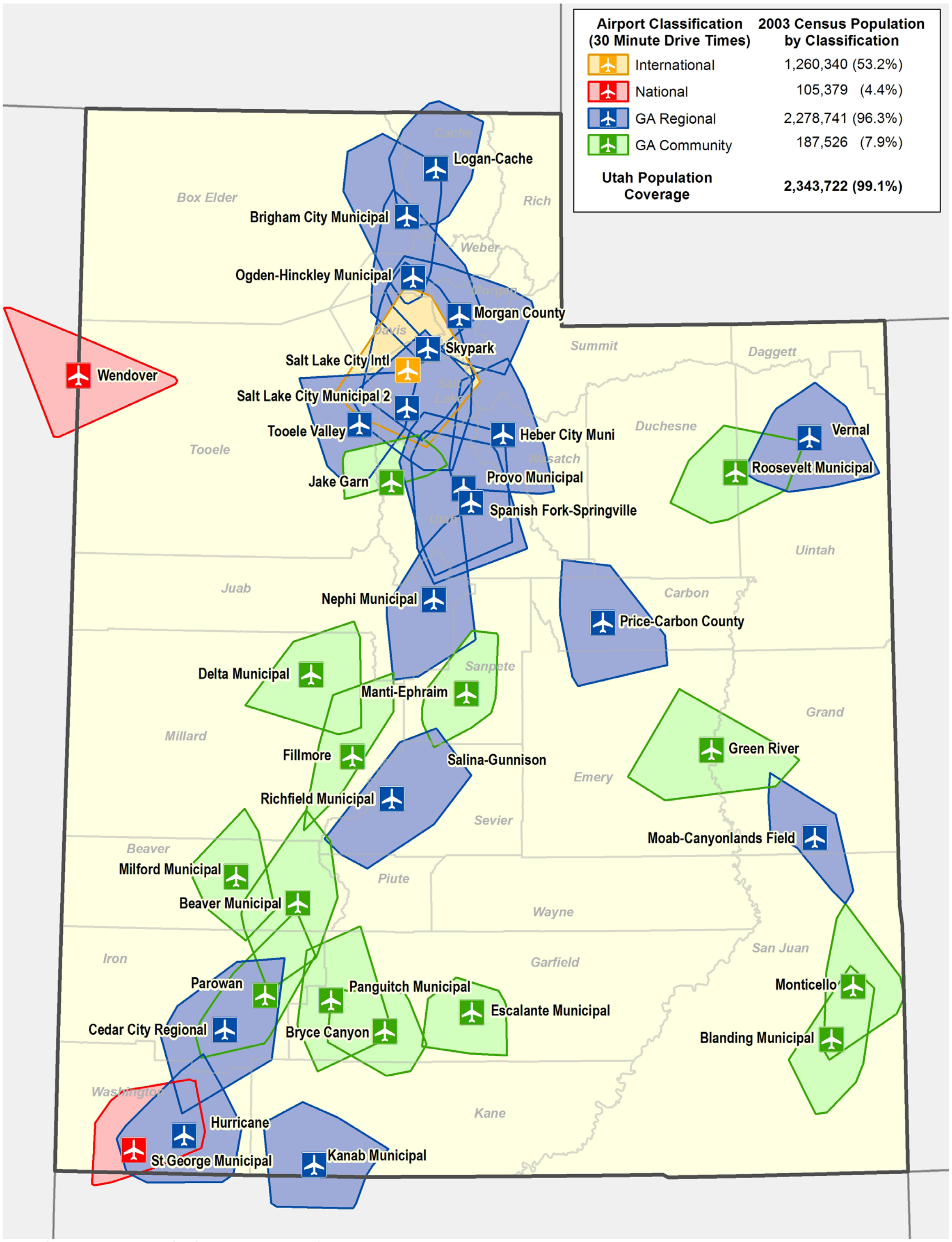
Source: 2003 U.S. Census, Wilbur Smith Associates, 2007

Exhibit 5-16
30-Minute Drive Time to GA Regional Airports



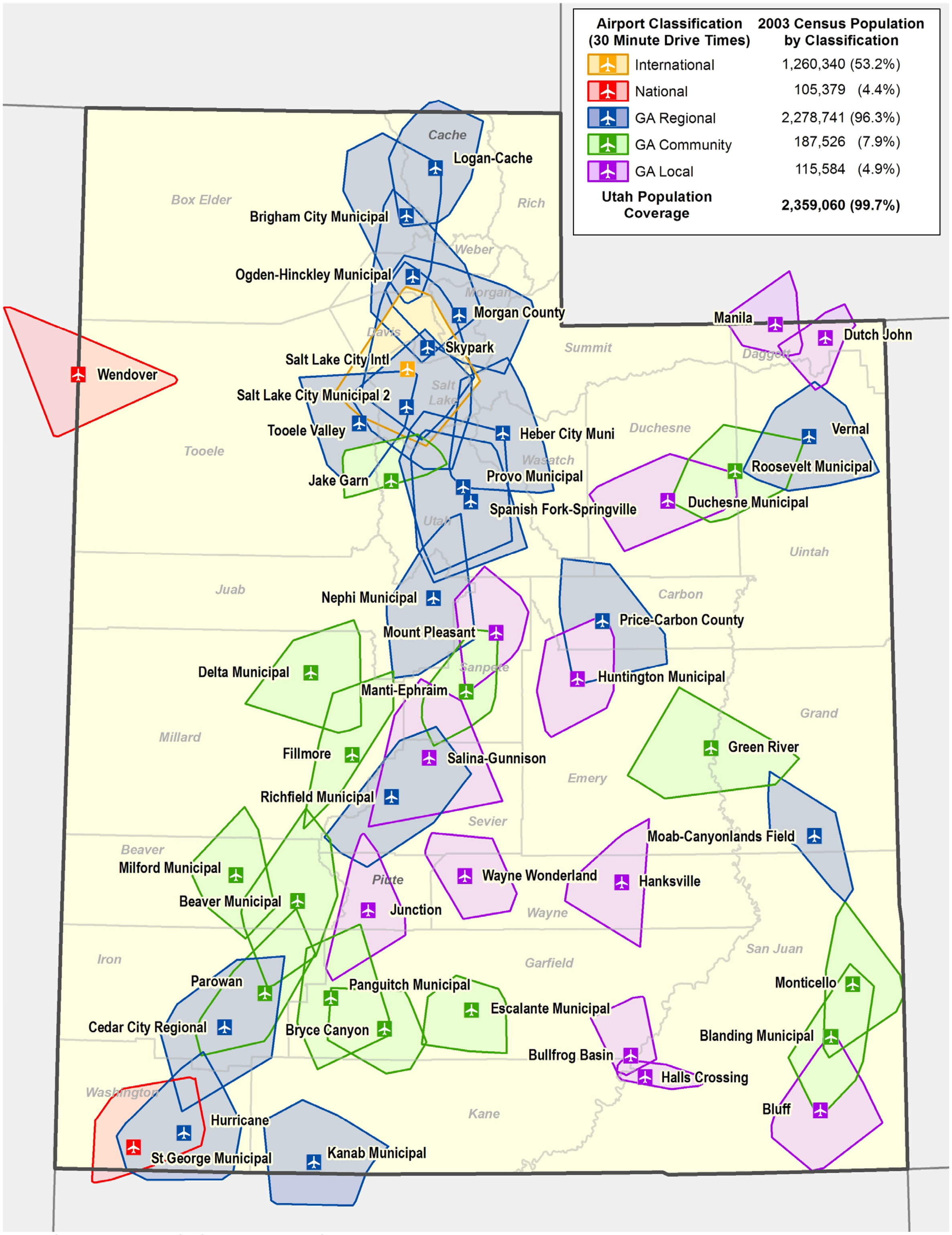
Source: 2003 U.S. Census, Wilbur Smith Associates, 2007

Exhibit 5-17
30-Minute Drive Time to GA Community Airports



Source: 2003 U.S. Census, Wilbur Smith Associates, 2007

Exhibit 5-18
30-Minute Drive Time to GA Local Airports

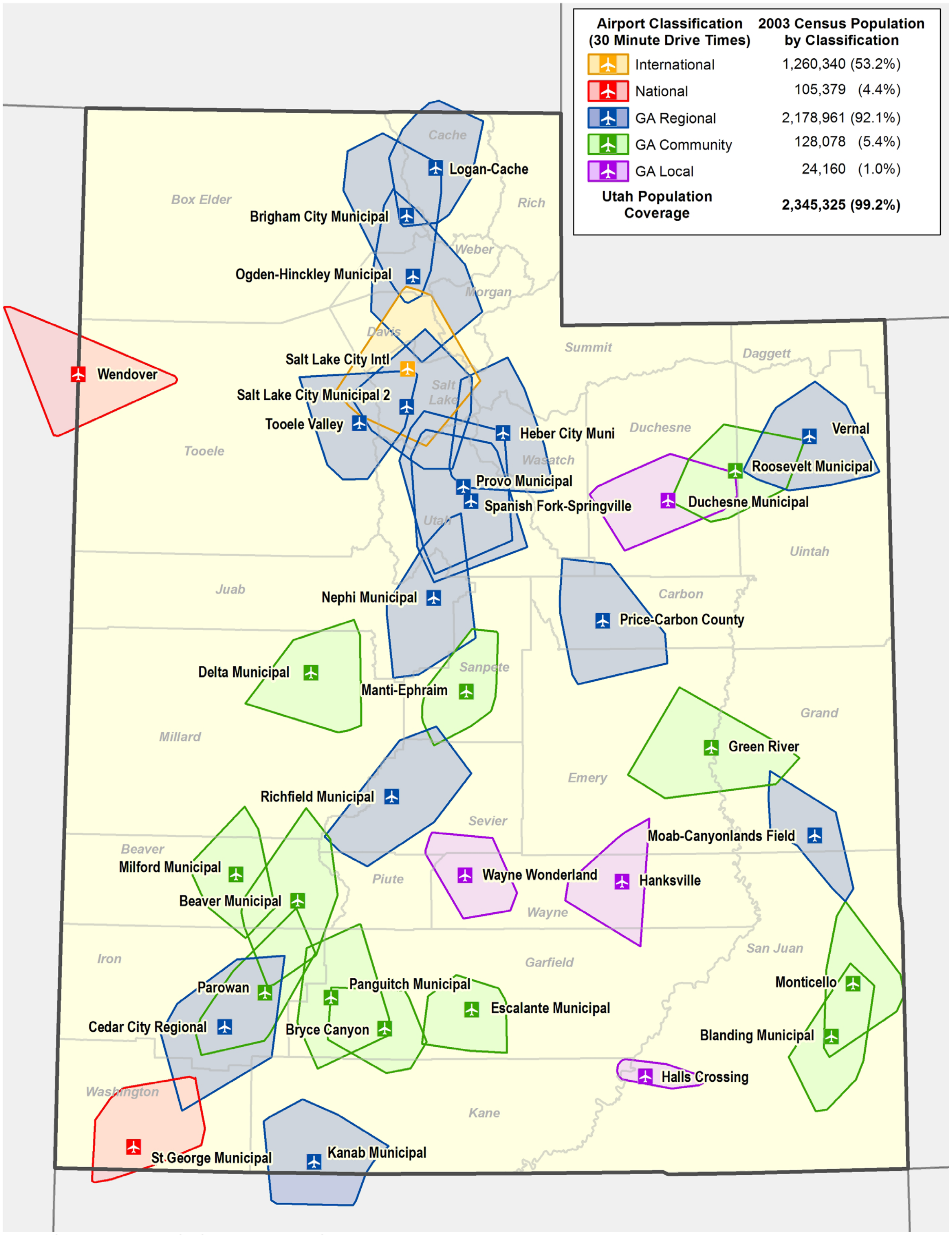


Source: 2003 U.S. Census, Wilbur Smith Associates, 2007

Percent of population and land area within a 30 minute drive time of an airport included in the FAA National Plan of Integrated Airport Systems (NPIAS)

The NPIAS is the national airport system plan developed by the FAA to identify aviation facilities of significance to the national air transportation network. NPIAS airports are eligible to apply for federal grants for airport planning and certain capital improvements. These federal grants currently fund 95 percent of all eligible expenses with the remaining percentage being the responsibility of the local airport sponsor. The UDOA may assist airport sponsors with 50 percent of the required local matching funds. Due to the availability of this funding program, airports included in the NPIAS typically have a much greater level of facilities and services available to airport users. Additionally, this funding program allows airports included in the NPIAS to develop new or improved facilities to meet current or projected demand. Of the 47 airports comprising the Utah system of airports, 34 are currently included in the NPIAS. **Exhibit 5-19** shows the airports in Utah included in the NPIAS. Over 99 percent of Utah's population is within a 30-minute drive time of an airport included in the NPIAS, and almost 29 percent of Utah's land area is covered by these airports.

Exhibit 5-19
Population within 30-minute Drive Time of a NPIAS Airport



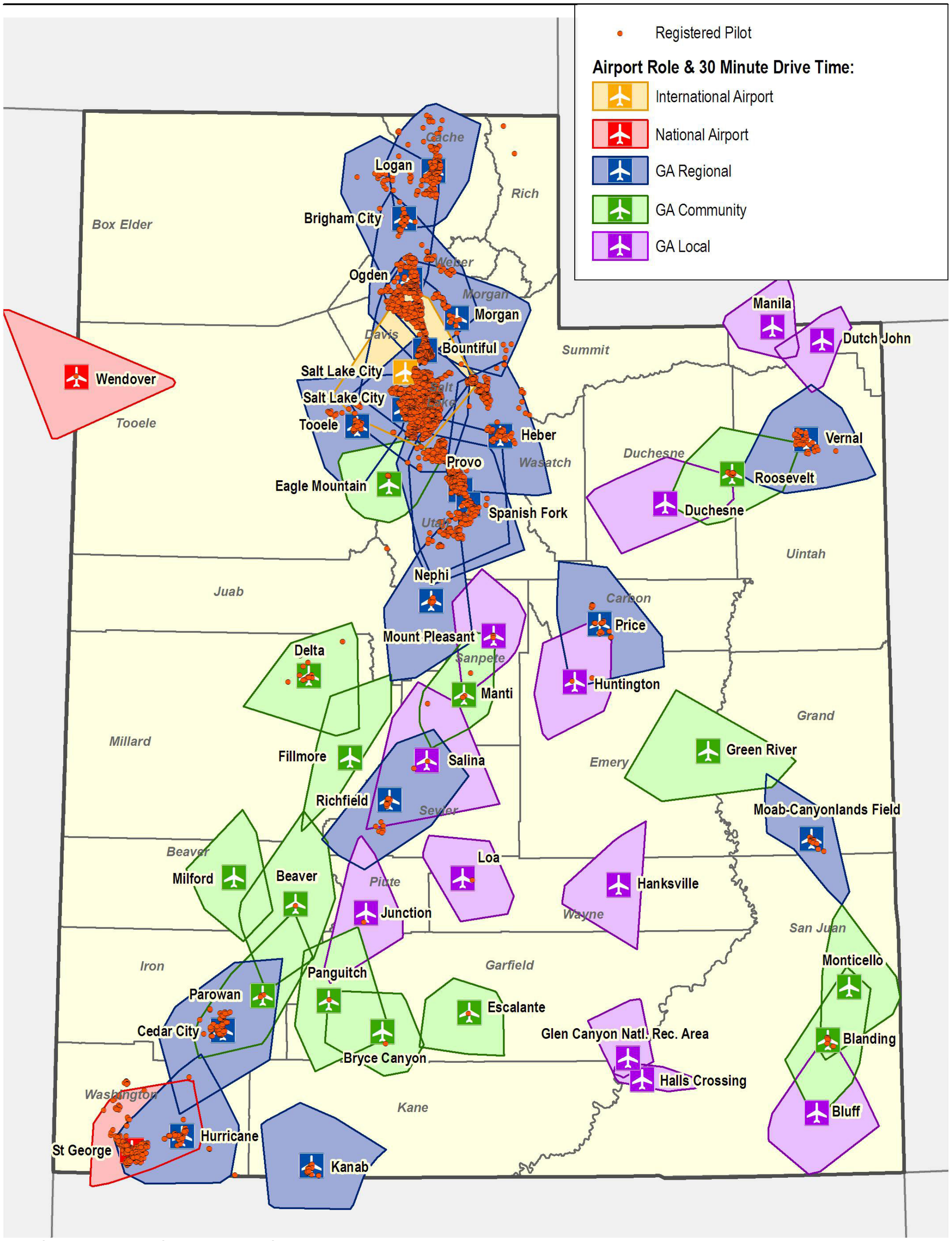
Source: 2003 U.S. Census, Wilbur Smith Associates, 2007

Percent of registered pilots within a 30-minute drive time of a system airport

It is reasonable to assume that identifying the location of the state's registered pilots provides an indicator of the demand for aviation activity at each airport in the system. Additionally, by identifying the location of registered pilots in Utah, it is possible to see if there are pilots not located near an existing system airport.

In order to perform this task, addresses were obtained for each pilot in the state holding a current FAA Medical Certificate. The data was obtained from AIRPAC Inc. and contained 7,076 pilots. The pilot locations were overlaid with the state's 47 system airports and their corresponding 30-minute drive time coverage in the GIS. **Exhibit 5-20** displays the pilot locations with respect to the drive time coverage in "dot-density" format and provides the ability to see the concentration of pilots as well as those located outside of a 30-minute boundary of a system airport. This analysis indicates that Utah's 47 airports provide access to nearly 100 percent of the state's registered pilots. The only pilots located outside the 30-minute drive time boundary are located in Rich County in the far northern portion of the state and in Washington County in the southwestern portion of the state.

Exhibit 5-20
Registered Pilots within 30-minute Drive Time of a System Airport



Source: AIRPAC Inc., Wilbur Smith Associates, 2007

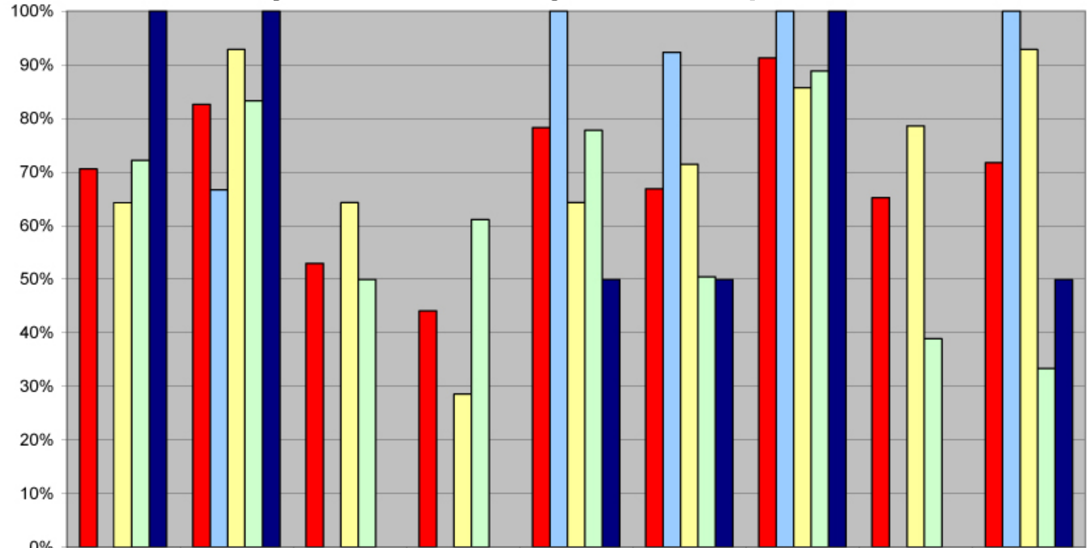
Percent of Airports Meeting Facility and Service Objectives

Chapter Three (Airport Role Analysis) established roles and facility and service objectives for each Utah system airport. In order for airports to completely fulfill their respective roles in the system, the established facility and service objectives should be met. The specific facilities and services needed depend on the role that the airport plays, with more extensive facilities needed at airports that serve larger, more sophisticated aircraft.

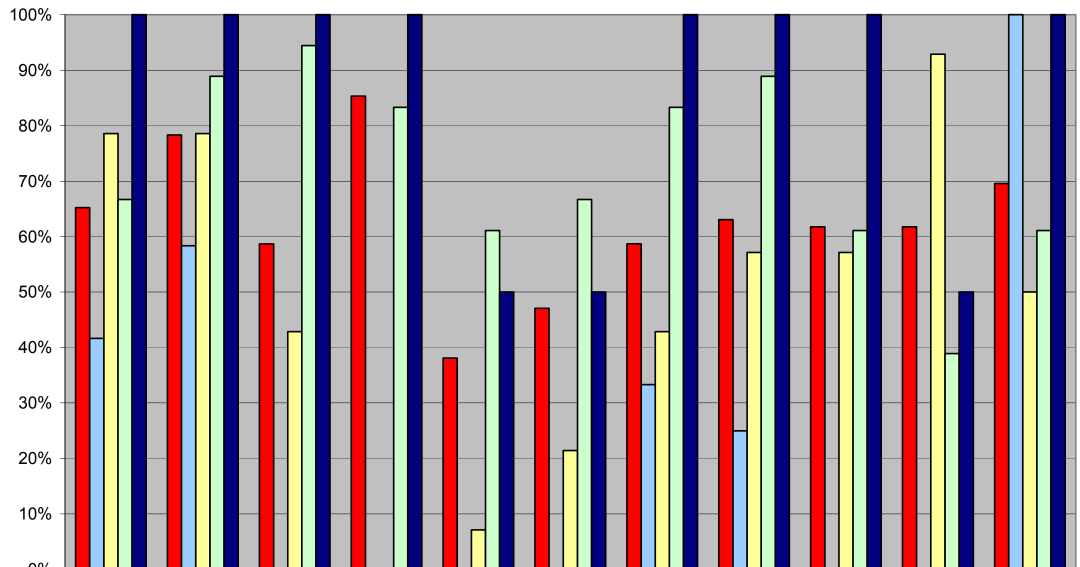
It is important to note that the purpose of the System Plan is to provide the Utah Division of Aeronautics (UDOA) a clear assessment of airport needs in the state. Facility and service deficiencies identified in this analysis do not necessarily indicate that an airport should or must meet that objective during or beyond the planning period. From an FAA funding standpoint, projects must be included and justified in an airport-specific study in order to be eligible for FAA participation. Projects must be identified on an airport layout plan (ALP) and appropriate environmental analyses must be prepared prior to consideration for funding. While the System Plan's analysis is considered in the overall context of FAA review, justification for airport-specific projects must be provided to gain FAA approval.

Exhibit 5-21 summarizes the current compliance within each role category for facility and service objectives as well as the overall system. In the instance where no specific objective has been established for a role, the corresponding data has been left blank. A complete, detailed analysis has been performed and is included in **Appendix C**. In some cases airports in a given role may not currently meet their objective. Furthermore, it is possible that in the future some airports may never meet the objectives. These facility and services objectives are just that, objectives, and serve as guidelines for the airport system as a whole to strive for when the means for compliance exist.

Exhibit 5-21
Facility and Service Objective Compliance



	Weather	Lighting	Visual Aids	Navigational Aid	Taxiway	Primary Runway Strength	Primary Runway Width	Primary Runway Length	ARC
System	71%	83%	53%	44%	78%	67%	91%	65%	72%
Local		67%			100%	92%	100%		100%
Community	64%	93%	64%	29%	64%	71%	86%	79%	93%
Regional	72%	83%	50%	61%	78%	50%	89%	39%	33%
National	100%	100%	0%	0%	50%	50%	100%	0%	50%



	Phone	Restrooms	FBO	Maint. Facilities	On-Site Rental Car	Courtesy Car	Perimeter Fencing	Terminal	Hangars	Apron	Auto Parking
System	65%	78%	59%	85%	38%	47%	59%	63%	62%	62%	70%
Local	42%	58%					33%	25%			100%
Community	79%	79%	43%		7%	21%	43%	57%	57%	93%	50%
Regional	67%	89%	94%	83%	61%	67%	83%	89%	61%	39%	61%
National	100%	100%	100%	100%	50%	50%	100%	100%	100%	50%	100%

Source: UDOA, Wilbur Smith Associates, 2007

SUMMARY

The analysis contained in this chapter summarizes the existing performance of Utah's airport system based on the roles that were initially identified for each airport in the Utah Airport System. This analysis represents a "report card" on existing facilities, services and activities. The next chapter analyzes future needs of Utah's airport system, including the identification of projects that are needed for the system to perform at its recommended level. This analysis provides the baseline for developing system recommendations and quantifying future system performance improvements.

Chapter Six: Future System Analysis

This chapter identifies options available to address deficiencies within the Utah Airport System. The analysis focuses on the performance of each evaluation measurement summarized in the previous chapter and presents available options to improve the performance of the system. The impact of outside influences that could affect the future airport system is also considered.

The responsibility for implementing projects and following recommendations identified in the UCASP remains with local airport owners and sponsors in coordination with the UDOA and FAA. It is possible that local constraints (community, financial, physical, or environmental) may make it impossible for individual airports to meet all targets outlined in this portion of the UCASP. Final UCASP recommendations will be a blend of airport initiatives and system needs. Individual airport recommendations and costs are presented in the next chapter of the UCASP.

OUTSIDE INFLUENCES

The demand for airports and aviation services is influenced by many factors, both aviation and non-aviation related. The primary non-aviation factors influencing aviation demand in Utah include:

- Population
- Employment
- Tourism
- Retirement\Second Home Development
- Energy Exploration
- Surface Transportation Improvements

The following sections discuss the potential impacts of each factor and identify the airports most likely to be affected.

Population

Population growth in Utah is projected to occur primarily in established cities and towns along the I-15 corridor. The highest growth rates are projected to occur along the Wasatch Front and in the southwest area of the state. **Table 6-1** presents the top 10 counties in Utah projected to experience the greatest overall population growth. System airports located in each county are also identified. Airports located in these counties are more likely to experience higher levels of demand for aviation services based on the growth in population. Salt Lake County is projected to experience the greatest population increase in Utah, adding over 328,000 additional residents by the year 2025.

Table 6-1
Airports in Counties with the Highest Projected Overall Population Growth

County	Projected 2005 - 2025 Total Population Growth	Airports
Salt Lake	328,151	Salt Lake City International, Salt Lake City Municipal #2
Utah	283,018	Provo Municipal, Spanish Fork Springville, Jake Garn
Washington	176,085	St. George Municipal, Hurricane
Davis	94,917	Skypark
Weber	74,940	Ogden Hinckley
Cache	62,782	Logan-Cache
Tooele	49,860	Tooele Valley, Wendover
Summit	38,051	None
Iron	30,125	Cedar City, Parowan
Box Elder	21,697	Brigham City

Source: Governor's Office of Planning and Budget - 2005 Baseline Projections, Wilbur Smith Associates

Employment

Employment growth is expected to mirror population growth in Utah. Similar to population growth, employment growth will also occur primarily in established cities with the largest increases occurring in the northern and southwestern portions of the state. **Table 6-2** identifies the counties in Utah projected to experience the greatest overall employment growth between 2005 and 2025. Salt Lake County is projected to experience the greatest overall increase in employment adding over 320,000 new jobs by the year 2025.

Table 6-2
Airports in Counties with the Highest Projected Overall Employment Growth

County	Projected 2005 - 2025 Total Employment Growth	Airports
Salt Lake	320,300	Salt Lake City International, Salt Lake City Municipal #2
Utah	164,121	Provo Municipal, Spanish Fork Springville, Jake Garn
Washington	80,691	St. George Municipal, Hurricane
Weber	48,964	Ogden Hinckley
Davis	46,118	Skypark
Cache	44,453	Logan-Cache
Iron	16,914	Cedar City, Parowan
Summit	16,634	None
Box Elder	11,930	Brigham City
Tooele	8,751	Tooele Valley, Wendover

Source: Governor's Office of Planning and Budget - 2005 Baseline Projections, Wilbur Smith Associates

Tourism

Demand at many of the state's airports is influenced by tourism activity. Salt Lake City International and St. George Municipal airports serve the greatest numbers of tourism related visitors who arrive via scheduled commercial air service to the State of Utah. The Wendover Airport also serves a significant number of tourism related visitors traveling on chartered flights to casinos in Wendover, Nevada. In 2005 the Wendover Airport recorded over 23,000 passenger enplanements. Since that time, the number of passenger enplanements at the Wendover Airport has continued to grow. This growth is expected to continue with the development of a new casino, expanded entertainment opportunities and the addition of new charter flights.

Salt Lake City International and St. George Municipal airports also serve a significant number of tourism related visitors who arrive via general aviation aircraft. Other airports servicing higher numbers of tourism related visitors arriving by general aviation aircraft include: Ogden Hinckley, Provo Municipal, Heber, Wendover, Moab, Cedar City, and Bryce Canyon. In the future, resorts proposed near the Beaver and Kanab airports have the potential to significantly increase the number of tourism related visitors arriving by general aviation at these airports.

Retirement\Second Home Development

As increasing numbers of "baby boomers" retire, development of retirement and second homes is increasing throughout the United States. In Utah, the mountainous areas east of Salt Lake and the St. George area have experienced increased housing development that is partially attributable to the development of retirement and second homes. This activity has increased demand for aviation services at the Salt Lake City International, Heber, St. George and Hurricane airports. Future development of retirement and second homes is expected to increase demand at several additional airports including: Beaver, Cedar City, Heber, Kanab and Ogden.

Energy Exploration

Increases in the cost of energy have caused an increase in energy exploration activities in Utah, as well as an increase in aviation activity related to energy exploration. Aviation demand related to energy exploration was studied to determine if Utah's airport system is capable of accommodating current and future demand for aviation facilities and service. The Vernal, Price and Richfield airports currently serve the majority of energy exploration related aviation activity. These airports are projected to continue serving this activity with other airports in the state receiving limited activity related to energy exploration.

Surface Transportation Improvements

Planned surface transportation improvements will impact the state's overall transportation infrastructure and could result in changes in demand for aviation facilities and services. The following figures depict areas of the state in which future significant roadway and transit improvement projects are planned. These projects were identified in Utah Department of Transportation's (UDOT) Statewide Transportation Improvement Program (STIP) and Metropolitan Planning Organization's (MPO's) Long Range Plans. The types of roadway projects included are projects that may significantly impact nearby airports, such as the construction of new roads or high capacity transit systems.

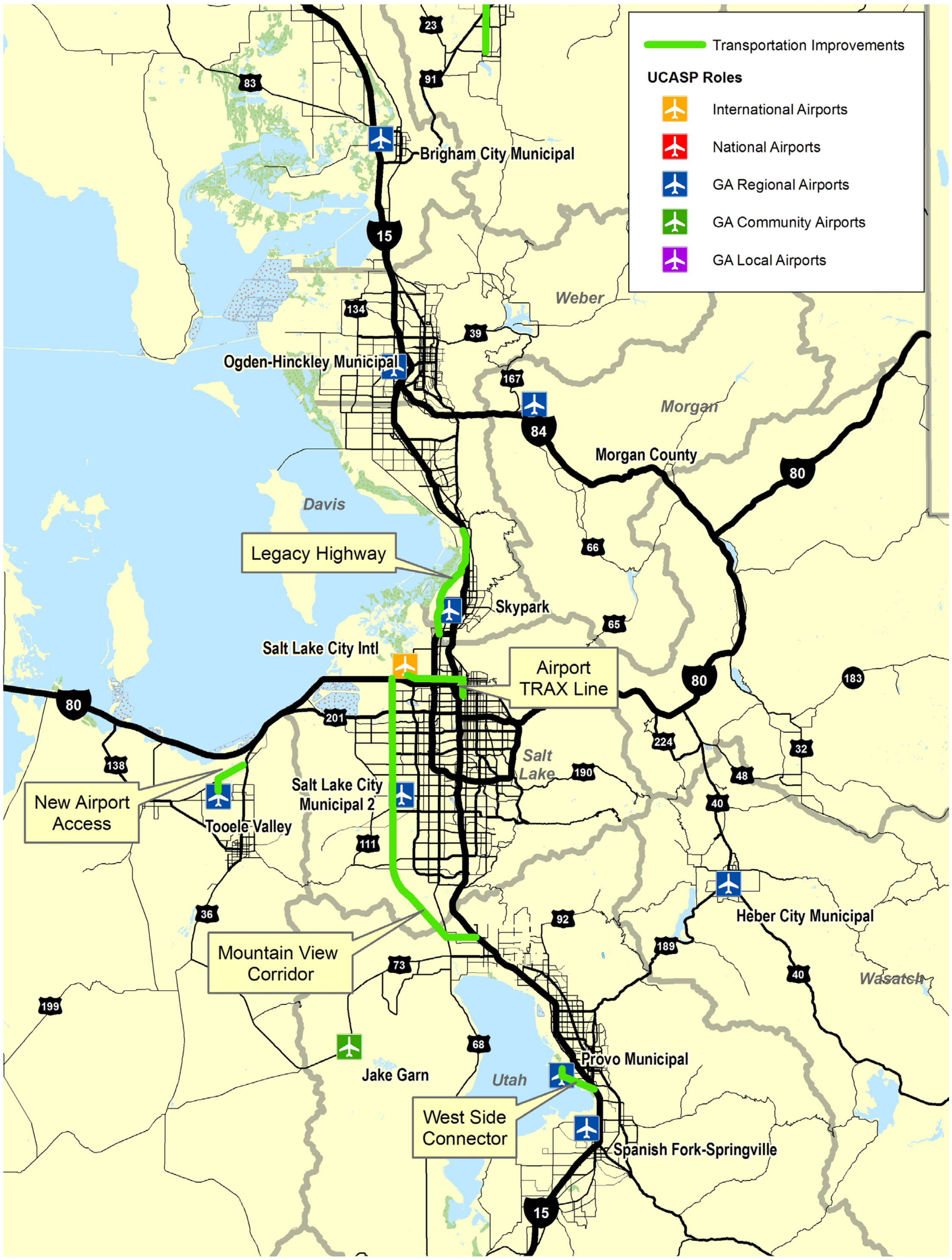
Exhibit 6-1 depicts the Wasatch Front Region's airports and future significant transportation projects. The region includes Weber, Davis, Salt Lake, Tooele, and Utah Counties. The following planned surface transportation projects have the potential to impact demand at airports in this region.

- Mountain View Corridor is a planned 6 to 8-lane freeway that will run north/south on the western side of Salt Lake County from I-80 connecting with I-15 in Utah County. Between I-80 and approximately 10600 South this corridor is expected to run along 5800 West. After 10600 South the corridor heads southeast connecting with I-15 in the City of Lehi. This roadway will be classified as a major arterial, and will significantly increase mobility on the western side of Salt Lake County and the northwestern potion of Utah County. Salt Lake City Municipal Airport # 2 is located between 6200 South and 7800 South and between approximately 3900 West and 4500 West. Mountain View Corridor will run approximately 13 blocks west of the Salt Lake City Municipal Airport # 2 and will increase access to the airport from both western Salt Lake and northern Utah Counties. This corridor also increases access to Saratoga Springs and Eagle Mountain in northwest Utah County, and will improve access to the Jake Garn Airport.

- Legacy Parkway is a four-lane highway currently under construction in northern Salt Lake County and southern Davis County. This highway makes a connection between the northwest portion of I-215 in Salt Lake County and I-15 near Farmington in Davis County. Legacy Parkway will provide an alternative to I-15 through this area and will improve traffic flow for commuters. Skypark Airport is located at approximately 2600 South and Redwood Road in Woods Cross. Legacy Parkway will run directly west of the airport, and will improve access to Skypark Airport especially during peak traffic periods when I-15 is heavily congested.

  Salt Lake International Airport is located approximately two miles south of where this highway connects with I-215 in northern Salt Lake County. Legacy Parkway will likely improve access to Salt Lake International Airport for residents of northern Utah and southern Idaho.

Exhibit 6-1
Wasatch Front Area Future Transportation Improvements Affecting Airports



Source: UDOA, Wilbur Smith Associates, 2007

- A Light Rail Transit (LRT) line is currently being studied by the Utah Transit Authority to connect Downtown Salt Lake City and Salt Lake International Airport. This Downtown-Airport LRT Line will connect with other regional LRT lines, local bus routes, and commuter rail. This will allow more people to arrive and depart from the airport by transit rather than automobile, possibly resulting in a decrease in demand for rental cars and parking at the airport.

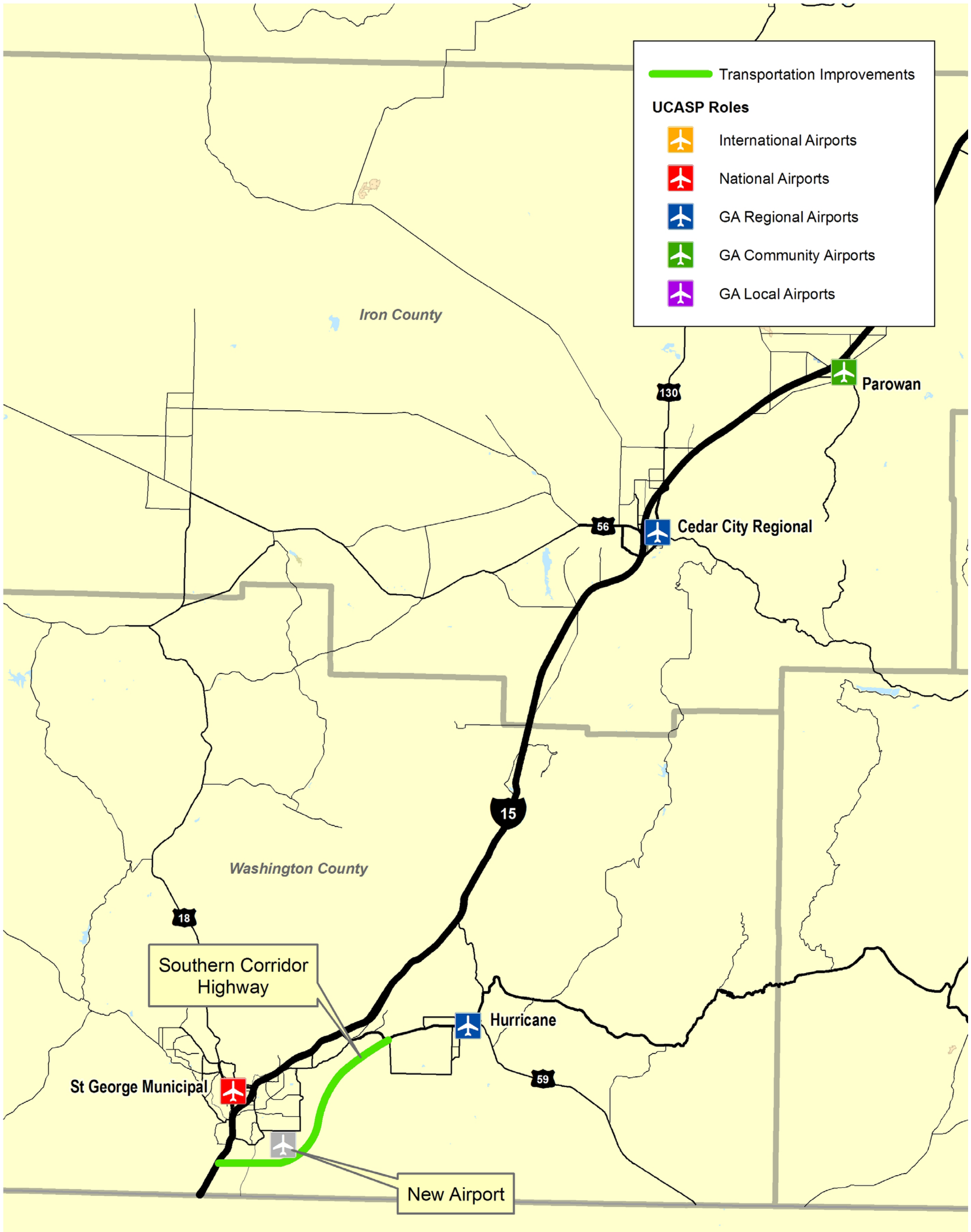
- Access to the Tooele Valley Airport is planned for improvement. Tooele Valley Airport currently has one access point to the south from a local road, Erda Way. The airport master plan indicates a new access to the north from Highway 138. This connection will increase access to the airport from a more highly utilized road and slightly decrease the travel time from the Salt Lake Valley.

- The proposed Westside Connector in Utah County is a four-lane road that will connect I-15 at University Avenue to Provo Municipal Airport. This highway will connect with I-15 in Provo at the University Avenue interchange and travel west and slightly north until it reaches Mike Jensen Parkway, the main access road to the Provo Municipal Airport. Currently, the primary access to Provo Municipal Airport is from Center Street in Provo, a two-lane road traveling through a residential neighborhood. The Westside Connector will provide access to the airport, and possibly facilitate new business development opportunities near the airport.

Exhibit 6-2 depicts the St. George area in southern Utah and the location of the replacement St. George Municipal Airport and the existing Hurricane Airport The following is a description of a roadway improvement planned in the area that will affect the region's airports.

- UDOT's STIP and the Dixie MPO's Long Range Plan identify construction of the Southern Parkway southeast of St. George. The parkway will be a major corridor wrapping around the south and east sides of the new St. George airport. The road will begin at the southern end of St. George at I-15 and head east past the future St. George airport. The corridor will then head north and west until it meets with Highway 9 in Hurricane. This new corridor will mostly likely provide the main access to the new airport and provide ample opportunities for business development near the airport. This corridor will also increase the ease of access to Hurricane Airport by connecting St. George to Hurricane with an alternative to I-15.

Exhibit 6-2
St. George Area Future Roadway Improvements Affecting Airports



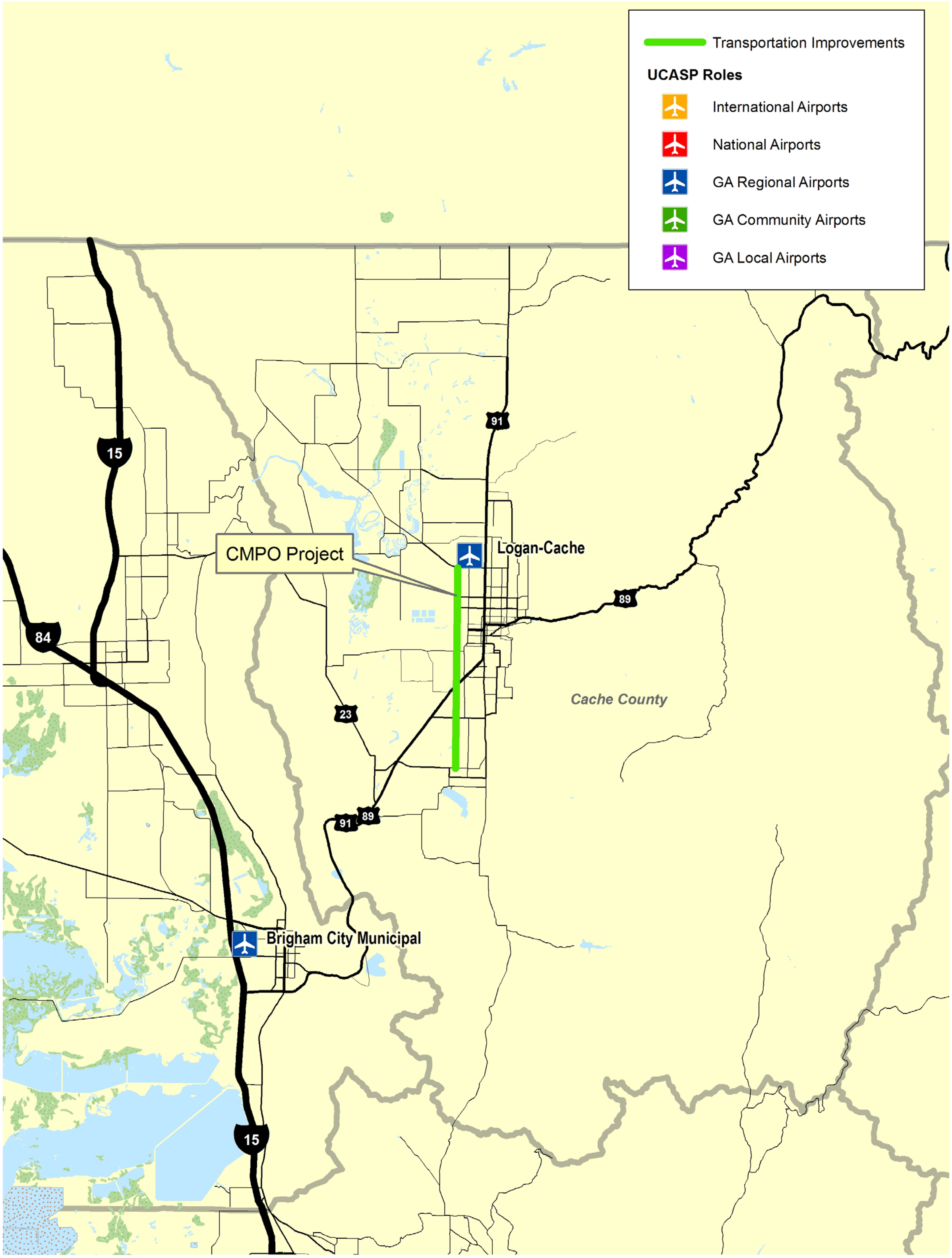
Source: UDOA, Wilbur Smith Associates, 2007

Exhibit 6-3 shows the Cache Valley area in the northeast portion of Utah. The following is a description of a roadway improvement planned in the area that may affect the Logan Airport.

- Westside Route is a planned roadway providing an additional four-lane north/south arterial to the Cache Valley. The route will begin in Nibley at State Road 101 at approximately 1400 West, crossing over Highway 89/91 and continuing north to Airport Road in North Logan. The alignment will follow approximately 1000 West after crossing US Highway 89/91. This road will relieve the heavy traffic volume on highway 89/91 through the Cache Valley, and will serve as a bypass to downtown Logan City creating a faster connection directly to the Logan airport from the south.

Projected growth and transportation improvements have the potential to alter future aviation needs of the state. As areas grow, airport needs may also increase. Transportation improvements provide an opportunity for additional increases in population, as travel times are reduced and currently underutilized properties present new development opportunities. The new transportation facilities discussed above indicate prime locations for growth in population and in airport service area demands.

Exhibit 6-3
Cache Valley Area Future Roadway Improvements Affecting Airports



Source: UDOA, Wilbur Smith Associates, 2007

SYSTEM EVALUATION

Current classifications for airports in Utah, identified in Chapter Three, provide a baseline for evaluating the adequacy of the existing airport system. The following system evaluation indicates the Utah Airport System's adequacy in meeting the state's near and long-term aviation needs. This evaluation provides the foundation for subsequent recommendations for the Utah Airport System and individual system airports. Some performance measures used to evaluate Utah's Airport System are objective, while others are more subjective in nature. The three goal categories established to evaluate the system and considered in this chapter include:

- Activity Served
- Economic Support
- Facilities and Accessibility

The performance measures within each of these goal categories were used to evaluate the overall performance related to that goal. Each performance measure is described below in terms of existing performance. If improvement in the performance measure is needed, a specific recommendation is provided.

GOAL CATEGORY: ACTIVITY SERVED

The intention of this goal category and the related performance measures is to develop a system of airports having adequate facilities and services to serve the existing and projected levels of aviation activity or demand.

Percent of Utah's population having access to scheduled commercial air service

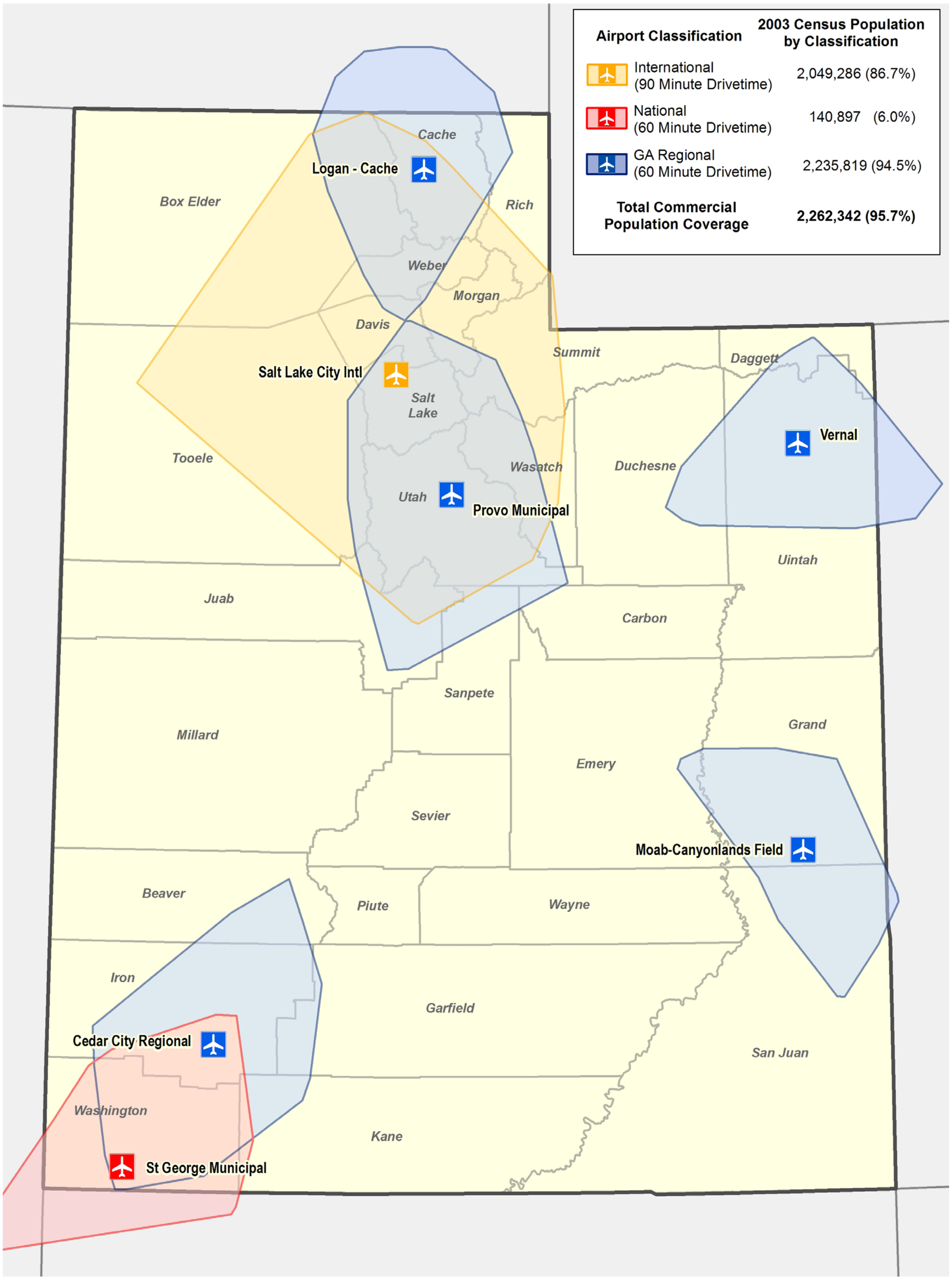
It is generally desirable for most, if not all, of a state's population to be within a reasonable drive of a commercial service airport. The drive times used to examine the coverage provided by the Utah system of airports consisted of a 90-minute drive time for Salt Lake City International and 60-minute drive times for all other commercial service airports. Scheduled commercial airline service within Utah is provided at Salt Lake City International, St. George Municipal, Cedar City, Moab-Canyonlands, and Vernal airports. Currently over 95 percent of Utah's population has reasonable access to commercial air service, while 35 percent of the land area within the state is contained within the drive time coverage provided by these airports.

With the majority of population and employment growth projected to occur in areas currently served by scheduled commercial service airports, the percent of Utah's population with access to commercial service is anticipated to increase over time. Additionally, the possibility exists for new scheduled commercial service to be provided at some Utah system airports, most notability the Logan-Cache and Provo Municipal Airports. However, due to the proximity of these two airports to Salt Lake City International the additional population coverage provided by these two airports is minimal as shown in **Exhibit 6-4**. The coverage provided by the Logan-Cache and Provo Municipal airports combined would serve an additional 0.2 percent of Utah's population.

It is important to note that commercial airline service at Cedar City, Moab-Canyonlands, and Vernal is supported by federal operating subsidies through the Essential Air Service (EAS) program. The existing coverage provided by Utah’s five commercial service airports that are within reasonable access to Utah residents is considered to be adequate. The future of access to commercial service airports would likely change only if EAS subsidies were eliminated and airline service is no longer subsidized. Without subsidization, Cedar City, Moab and Vernal might lose commercial airline service, reducing the commercial service coverage provided to approximately 93 percent of Utah’s population.

It is recommended that the EAS program be continued and supported by the State of Utah to ensure commercial airline service continues to be provided at Utah’s three EAS airports. The EAS program continues to be at risk of being reduced or eliminated at the national level due to funding issues.

Exhibit 6-4
Population with Access to Scheduled Commercial Air Service



Source: 2003, US Census

Percent of Utah's population having access to an airport with FAR Part 135 passenger aircraft charter service

Chapter Five of the UCASP identified 13 airports in the Utah system that currently have a passenger aircraft charter service provider based on-site. Approximately 82 percent of the state's population is within a 30-minute drive-time of one of these 13 airports. This analysis is presented primarily for informational purposes as state officials and airport sponsors have limited influence over an aircraft charter operator's choice to operate or locate at a particular airport. Future growth or decline in this service will be primarily influenced by changes in population and specific economic conditions that give rise to this service.

Airports accommodating Instrument Flight Rule (IFR) operations from outside Utah

The previous chapter identified the number of IFR flight plans filed to airports in Utah from outside the state. This analysis provided an indication as to which airports in Utah provide the greatest contribution to the national air transportation system. This analysis also indicates where demand for instrument approach procedures exists at system airports. **Table 6-3** presents the number of IFR flight plans filed in 2006 to Utah system airports without instrument approach procedures. Facility and service objectives identified in Chapter Four recommend that airports in the Regional and Community roles have an instrument approach procedure, if possible. While development of instrument approach procedures is not feasible or practical at all system airports, priority in developing new instrument approach procedures should be given to airports with higher numbers of filed IFR flight plans.

Table 6-3
2006 IFR Flight Plans Filed to Airports with Visual Approaches

Associated City	Airport	UCASP Classification	2006 IFR Flight Plans Filed
Bountiful	Skypark	Regional	250
Spanish Fork	Spanish Fork-Springville	Regional	201
Bryce Canyon	Bryce Canyon	Community	69
Monticello	Monticello	Community	51
Panguitch	Panguitch Municipal	Community	42
Halls Crossing	Halls Crossing	Local	35
Loa	Wayne Wonderland	Local	34
Beaver	Beaver Municipal	Community	32
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Local	23
Green River	Green River	Community	15
Parowan	Parowan	Community	13
Dutch John	Dutch John	Local	12
Fillmore	Fillmore	Community	8
Nephi	Nephi Municipal	Regional	5
Hanksville	Hanksville	Local	5
Hurricane	Hurricane	Regional	4
Morgan	Morgan County	Regional	4
Manti	Manti-Ephraim	Community	4
Escalante	Escalante Municipal	Community	3
Salina	Salina-Gunnison	Local	3
Junction	Junction	Local	2
Bluff	Bluff	Local	1
Manila	Manila	Local	1
Mount Pleasant	Mount Pleasant	Local	1

Source: GCR & Associates, Wilbur Smith Associates, 2007

Airports accommodating emergency medical flights in Utah

The previous chapter identified system airports currently accommodating fixed wing emergency medical flights and the basic airport facility requirements necessary to accommodate these operations. The requirements include a runway length of at least 4,000 feet, runway lighting and an instrument approach procedure. **Table 6-4** identifies where requirements are currently being met and where projects have been recommended to meet the requirements in the future. These recommendations are based the facility and service objectives for each UCASP airport category.

Table 6-4
Airports Meeting Requirements to Support Emergency Medical Flights in Utah

Associated City	Airport	> 4,000' Runway Length	Runway Lighting	Instrument Approach Procedure
International Airports				
*Salt Lake City	Salt Lake City International	✓	✓	✓
National Airports				
*St. George	St. George Municipal	✓	✓	✓
*Wendover	Wendover	✓	✓	✓
Regional Airports				
Bountiful	Skypark	✓	✓	
Brigham City	Brigham City Municipal	✓	✓	✓
*Cedar City	Cedar City Regional	✓	✓	✓
Heber	Heber City Municipal	✓	✓	✓
Hurricane	Hurricane	R		
*Logan	Logan-Cache	✓	✓	✓
*Kanab	Kanab Municipal	✓	✓	✓
*Moab	Moab-Canyonlands Field	✓	✓	✓
Morgan	Morgan County			
Nephi	Nephi Municipal	✓	✓	R
*Ogden	Ogden-Hinckley Municipal	✓	✓	✓
*Price	Price-Carbon County	✓	✓	✓
Provo	Provo Municipal	✓	✓	✓
*Richfield	Richfield Municipal	✓	✓	✓
Salt Lake City	Salt Lake City Muni 2	✓	✓	✓
Spanish Fork	Spanish Fork-Springville	✓	✓	R
Tooele	Tooele Valley Airport	✓	✓	✓
*Vernal	Vernal	✓	✓	✓
Community Airports				
*Beaver	Beaver Municipal	✓	✓	R
*Blanding	Blanding Municipal	✓	✓	✓
Bryce Canyon	Bryce Canyon	✓	✓	R
*Delta	Delta Municipal	✓	✓	✓
Eagle Mountain	Jake Garn	R	R	R
Escalante	Escalante Municipal	✓	✓	R
*Fillmore	Fillmore	✓	✓	R
*Green River	Green River	✓	✓	R
Manti	Manti-Ephraim	✓	✓	R
Milford	Milford Municipal	✓	✓	✓
Monticello	Monticello	✓	✓	R
Panguitch	Panguitch Municipal	✓	✓	R
Parowan	Parowan	✓	✓	R
Roosevelt	Roosevelt Municipal	✓	✓	✓

Table 6-4, Continued
Airports Meeting Requirements to Support Emergency Medical Flights in Utah

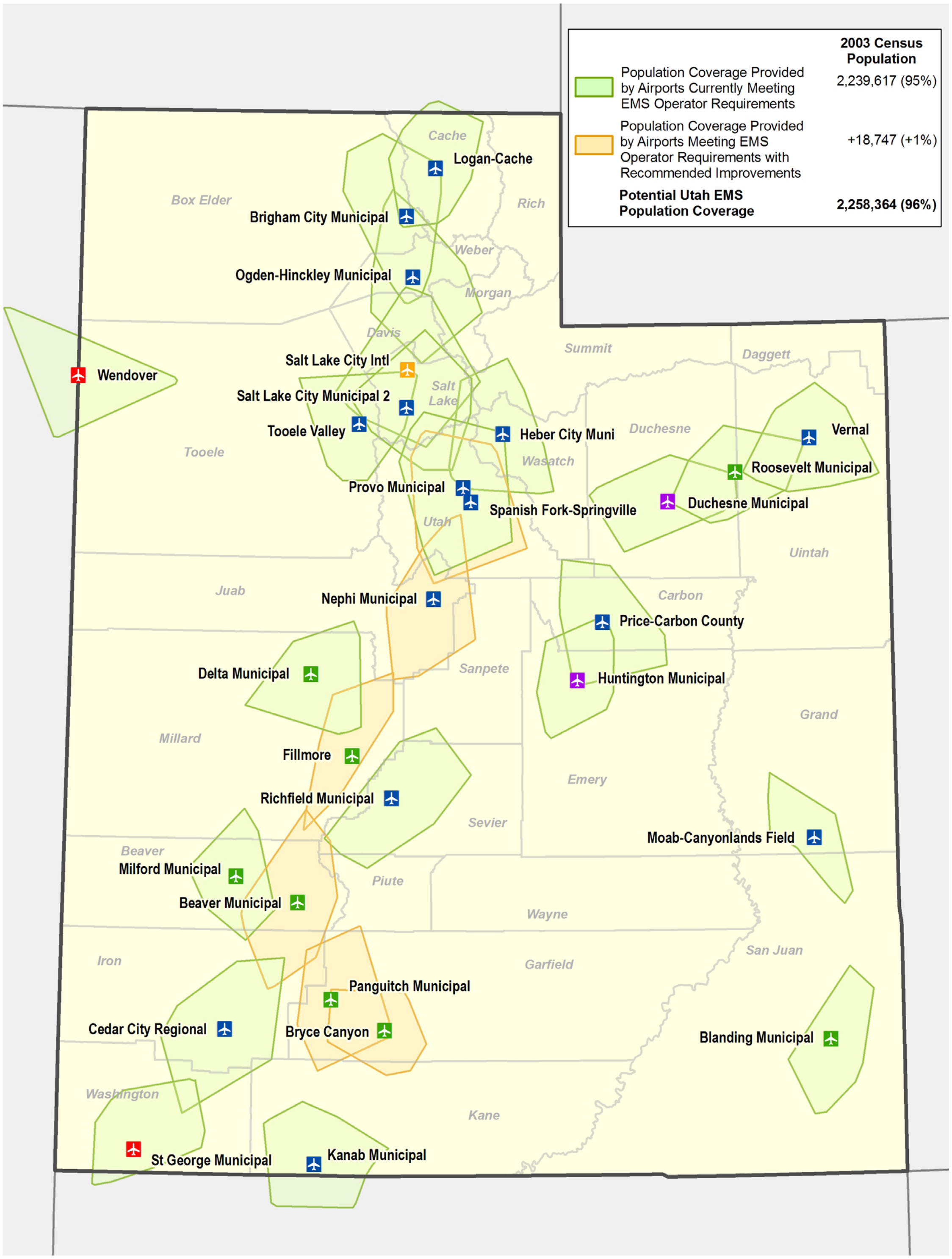
		> 4,000' Runway Length	Runway Lighting	Instrument Approach Procedure
Associated City	**Airport**			
Local Airports				
Bluff	Bluff Airport			
Duchesne	Duchesne Municipal	✓	✓	✓
Dutch John	Dutch John	✓		
Glen Canyon Natl. Rec. Area	Bullfrog Basin			
Halls Crossing	Halls Crossing	✓	✓	
Hanksville	Hanksville	✓	✓	
Huntington	Huntington Municipal	✓	✓	✓
Junction	Junction	✓		
Loa	Wayne Wonderland	✓	✓	
Manila	Manila	✓	✓	
Mount Pleasant	Mount Pleasant	✓	✓	
Salina	Salina-Gunnison		✓	

✓ - Meets Requirement **R** – UCASP Recommended Improvement
* - Airport used by AirMed or LifeFlight fixed wing aircraft in 2006

Source: UDOA, Wilbur Smith Associates, 2007

Exhibit 6-5 identifies the system airports that currently meet basic emergency medical service (EMS) operator requirements as well as airports meeting the requirements with recommended improvements. Currently, 22 of the 47 system airports met these requirements providing coverage within a 30-minute drive time to 95 percent of Utah's population. With recommended improvements, an additional 12 airports will meet EMS operator requirements, thus increasing the population coverage to 96 percent of Utah's population.

Exhibit 6-5
Airports Meeting Requirements to Support Emergency Medical Flights in Utah



Source: US Census 2003, Wilbur Smith Associates, UDOA

GOAL CATEGORY: ECONOMIC SUPPORT

Air transportation is important to Utah's economic performance. Employers throughout the nation consider the existence and efficiency of air transportation facilities when expanding or developing in a given geographic area. In addition, airport market areas must possess other characteristics that make them candidates for the retention and attraction of various economic and development activities.

Business aviation is one of the fastest growing portions of general aviation. Business aviation consists of companies and individuals using aircraft as tools to support their business. According to the National Business Aviation Association (NBAA), companies are rapidly becoming more dependent on general aviation to conduct business efficiently. Business aviation not only supports the economic vitality of individual companies, but also the state as a whole. In order to support growing business-related aviation activity in the state, it is important that a reasonable number of Utah airports be able to support larger, more sophisticated business jet aircraft. For this goal category, several factors are indicators of an airport's ability to support business aircraft and thus support Utah's economy.

Location of significant tourism destinations in relation to Utah airports

As identified in the previous chapter, demand for both commercial and general aviation services at many system airports is influenced by tourism related activity. Currently demand for aviation services at the Salt Lake City, Wendover, St. George, Moab, Bryce Canyon and Heber airports is influenced by tourism related activities. It is anticipated that tourism related demand at these airports will continue to grow in the future. Additionally, proposed development of upscale resorts near the Ogden, Beaver, and Kanab airports is anticipated to increase tourism related demand at these facilities. The UCASP recommends improvements at each of these airports to enable them to better serve tourism related visitors. These improvements will also enable these airports to better serve business and other types of airport users.

Location of oil and gas exploration and drilling activity in relation to Utah airports

As identified in the previous chapter, energy exploration has created increased demand at several Utah airports. The primary airports serving this industry are Vernal, Price and Richfield. Discussions with the Utah Division of Oil, Gas and Mining indicate that the Utah Airport System is currently providing an adequate level of service to the oil and gas industry. Furthermore, future growth within this industry is not expected to be significant enough to necessitate additional airport development beyond what is already planned. The Richfield Airport is currently in the process of upgrading to meet ARC C-II standards. This upgrade will provide an even higher level of service to the oil and gas industry operating in the Richfield area.

Percent of population with access to an airport supporting business jet operations

As identified in Chapter Five of the UCASP, 13 system airports are currently capable of fully accommodating large business jet aircraft. These airports have a runway length of at least 5,000 feet, pavement strength of at least 25,000 pounds Single Wheel Gear (SWG), jet fuel, and an instrument approach procedure. The 13 airports currently meeting these requirements provide coverage within a 30-minute drive time to approximately 90 percent of Utah's population. **Table 6-5** identifies the business jet requirements currently being met at system airports. Additionally the table identifies airport improvement projects that have been recommended related to these requirements. The recommendations are primarily based on the facility and service objectives identified for each airport classification. With recommended improvements, an additional nine system airports will be fully capable of accommodating business jet operations. **Exhibit 6-6** identifies the current population coverage provided by system airports meeting business jet requirements and those that will meet the requirements with recommended improvements. With the recommended improvements a total of 22 airports will be capable of accommodating business jet operations providing coverage within a 30-minute drive time to 99.7 percent of Utah's population.

Table 6-5
Airports Meeting Requirements to Accommodate Business Jet Operations

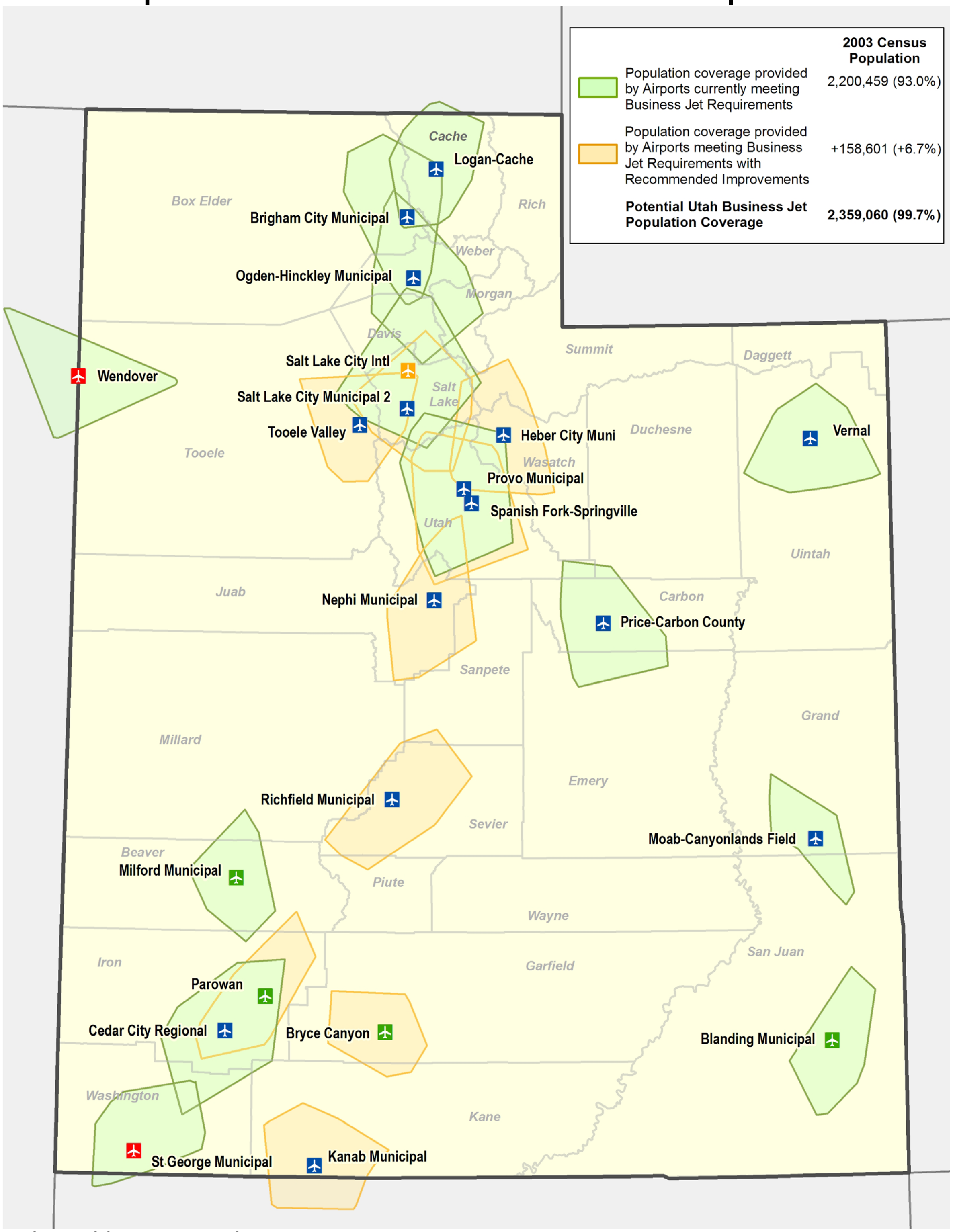
Associated City	Airport	> 5,000' Runway Length	> 25,000# SWG Runway Pavement Strength	Instrument Approach Procedure	Jet A Fuel
International Airports					
Salt Lake City	Salt Lake City Intl	✓	✓	✓	✓
National Airports					
St George	St George Municipal	✓	✓	✓	✓
Wendover	Wendover	✓	✓	✓	✓
Regional Airports					
Bountiful	Skypark				✓
Brigham City	Brigham City Municipal	✓	✓	✓	✓
Cedar City	Cedar City Regional	✓	✓	✓	✓
Heber	Heber City Muni	✓	R	✓	✓
Hurricane	Hurricane				✓
Kanab	Kanab Municipal	✓	R	✓	✓
Logan	Logan-Cache	✓	✓	✓	✓
Moab	Moab-Canyonlands Field	✓	✓	✓	✓
Morgan	Morgan County				R
Nephi	Nephi Municipal	✓	✓	R	✓
Ogden	Ogden-Hinckley Municipal	✓	✓	✓	✓
Price	Price-Carbon County	✓	✓	✓	✓
Provo	Provo Municipal	✓	✓	✓	✓
Richfield	Richfield Municipal	✓	R	✓	✓
Salt Lake City	Salt Lake City Muni 2	✓	R	✓	✓
Spanish Fork	Spanish Fork-Springville	✓	R	R	✓
Tooele	Tooele Valley Airport	✓	✓	✓	R
Vernal	Vernal	✓	✓	✓	✓
Community Airports					
Beaver	Beaver Municipal	✓		R	
Blanding	Blanding Municipal	✓	✓	✓	✓
Bryce Canyon	Bryce Canyon	✓	✓	R	✓
Delta	Delta Municipal	✓		✓	
Eagle Mountain	Jake Garn	R		R	
Escalante	Escalante Municipal	✓		R	
Fillmore	Fillmore	✓		R	
Green River	Green River	✓		R	✓
Manti	Manti-Ephraim			R	
Milford	Milford Municipal	✓	✓	✓	✓
Monticello	Monticello	R		R	✓
Panguitch	Panguitch Municipal	✓		R	
Parowan	Parowan	✓	✓	R	✓
Roosevelt	Roosevelt Municipal	✓		✓	✓

Table 6-5, Continued
Airports Meeting Requirements to Accommodate Business Jet Operations

		> 5,000' Runway Length	> 25,000# SWG Runway Pavement Strength	Instrument Approach Procedure	Jet A Fuel
Associated City	**Airport**				
Local Airports					
Bluff	Bluff Airport				
Duchesne	Duchesne Municipal	✓		✓	
Dutch John	Dutch John	✓			
Glen Canyon Natl. Rec. Area	Bullfrog Basin				
Halls Crossing	Halls Crossing	✓			✓
Hanksville	Hanksville	✓			
Huntington	Huntington Municipal			✓	
Junction	Junction				
Loa	Wayne Wonderland	✓			
Manila	Manila	✓	✓		
Mount Pleasant	Mount Pleasant				
Salina	Salina-Gunnison				
✓ - Meets Requirement **R** – UCASP Recommended Improvement					

Source: UDOA, Wilbur Smith Associates, 2007

Exhibit 6-6
Current and Future Airports Meeting Requirements to Accommodate Business Jet Operations



Source: US Census 2003, Wilbur Smith Associates

Percent of population within a 30-minute drive time of an airport capable of supporting VLJ operations

As identified in Chapter Five of the UCASP, the Utah Airport System currently has 12 airports that provide all of the facilities and services necessary to fully accommodate VLJ aircraft. These 12 airports provide coverage within a 30-minute drive time to approximately 93 percent of Utah's population. **Table 6-6** identifies the VLJ aircraft requirements currently being met at system airports, and recommended improvements that have been identified to support VLJ aircraft operations. The recommendations are primarily based on the facility and service objectives identified for each airport classification. With recommended improvements, an additional 13 system airports will be fully capable of accommodating VLJ aircraft operations. **Exhibit 6-7** identifies the current population coverage provided by system airports meeting VLJ aircraft requirements and those that will meet the requirements with recommended improvements. With the recommended improvements a total of 25 airports will be capable of accommodating VLJ aircraft operations providing coverage within a 30-minute drive time to 99.7 percent of Utah's population.

Table 6-6
Airports Meeting Requirements to Support VLJ Operations

Associated City	Airport	> 4,000' Runway Length	Instrument Approach Procedure	Jet A Fuel	Rental\Courtesy Cars	Terminal\Pilots Lounge
International Airports						
Salt Lake City	Salt Lake City Intl	✓	✓	✓	✓	✓
National Airports						
St George	St George Municipal	✓	✓	✓	✓	✓
Wendover	Wendover	✓	✓	✓	✓	✓
Regional Airports						
Bountiful	Skypark	✓		✓	✓	✓
Brigham City	Brigham City Municipal	✓	✓	✓	R	✓
Cedar City	Cedar City Regional	✓	✓	✓	✓	✓
Heber	Heber City Muni	✓	✓	✓	✓	✓
Hurricane	Hurricane	R		✓	R	✓
Kanab	Kanab Municipal	✓	✓	✓	R	✓
Logan	Logan-Cache	✓	✓	✓	✓	✓
Moab	Moab-Canyonlands Field	✓	✓	✓	✓	✓
Morgan	Morgan County			R	R	R
Nephi	Nephi Municipal	✓	R	✓	R	✓
Ogden	Ogden-Hinckley Municipal	✓	✓	✓	✓	✓
Price	Price-Carbon County	✓	✓	✓	R	✓
Provo	Provo Municipal	✓	✓	✓	✓	✓
Richfield	Richfield Municipal	✓	✓	✓	✓	✓
Salt Lake City	Salt Lake City Muni 2	✓	✓	✓	✓	✓
Spanish Fork	Spanish Fork-Springville	✓	R	✓	✓	✓
Tooele	Tooele Valley Airport	✓	✓	R	R	R
Vernal	Vernal	✓	✓	✓	✓	✓
Community Airports						
Beaver	Beaver Municipal	✓	R		R	R
Blanding	Blanding Municipal	✓	✓	✓	R	✓
Bryce Canyon	Bryce Canyon	✓	R	✓	✓	✓
Delta	Delta Municipal	✓	✓		R	✓
Eagle Mountain	Jake Garn	R	R		R	R
Escalante	Escalante Municipal	✓	R		R	✓
Fillmore	Fillmore	✓	R		R	✓
Green River	Green River	✓	R	✓	R	✓
Manti	Manti-Ephraim	✓	R		R	✓

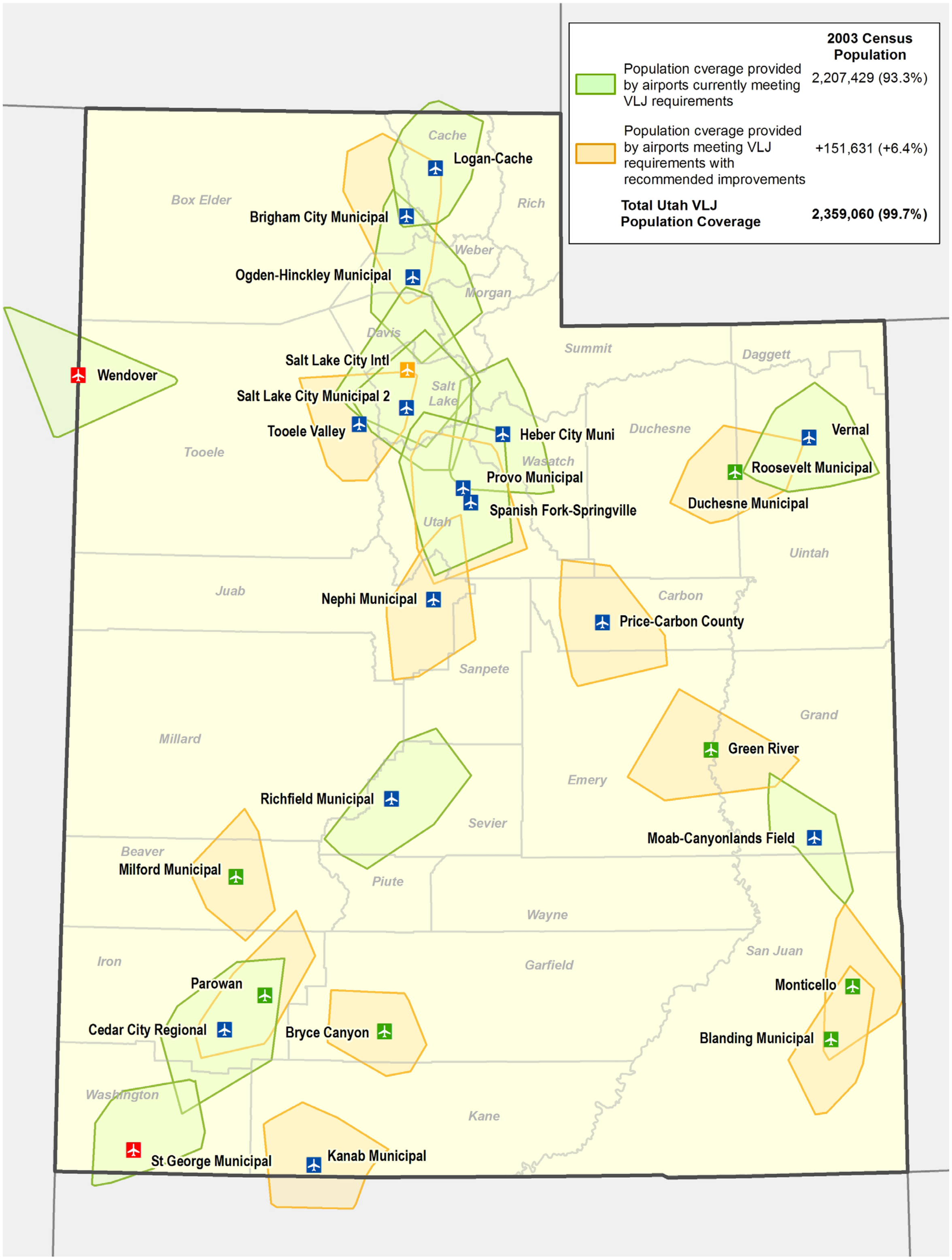
Table 6-6, Continued
Airports Meeting Requirements to Support VLJ Operations

Associated City	Airport	> 4,000' Runway Length	Instrument Approach Procedure	Jet A Fuel	Rental\Courtesy Cars	Terminal\Pilots Lounge
Community Airports						
Milford	Milford Municipal	✓	✓	✓	R	✓
Monticello	Monticello	✓	R	✓	R	✓
Panguitch	Panguitch Municipal	✓	R		R	R
Parowan	Parowan	✓	R	✓	R	✓
Roosevelt	Roosevelt Municipal	✓	✓	✓	R	✓
Local Airports						
Bluff	Bluff Airport					R
Duchesne	Duchesne Municipal	✓	✓			✓
Dutch John	Dutch John	✓				R
Glen Canyon Natl. Rec. Area	Bullfrog Basin	✓				R
Halls Crossing	Halls Crossing	✓		✓		✓
Hanksville	Hanksville	✓				R
Huntington	Huntington Municipal	✓	✓			✓
Junction	Junction	✓				R
Loa	Wayne Wonderland	✓				R
Manila	Manila	✓				R
Mount Pleasant	Mount Pleasant	✓				R
Salina	Salina-Gunnison					R

✓ - Meets Requirement **R** – UCASP Recommended Improvement

Source: UDOA, Wilbur Smith Associates, 2007

Exhibit 6-7
Current and Future VLJ Airport Population Coverage



Source: US Census 2003, Wilbur Smith Associates

Percent of state employment within 30-minute drive time of a system airport

Due to the correlation that exists between employment and demand for aviation services, it is important that Utah's workforce have easy access to airports providing scheduled commercial air service. Facilities and services necessary to accommodate business class aircraft are also important, including longer runway lengths, jet fuel, and an instrument approach. Analysis completed in Chapter Five showed that 97 percent of the state's employment is within a 30-minute drive time of a GA Regional or higher category airport. This level of coverage is considered excellent. This percentage is anticipated to increase in the future as employment growth in the state is expected to primarily occur in areas with existing airport coverage.

Businesses with a propensity to use aviation within a 30-minute drive time of a system airport

Analysis in Chapter Five identified a total 1,482 businesses in Utah having a propensity to use aviation facilities and services. Among these businesses, 98 percent are located within a 30-minute drive time of an airport in the GA Regional or higher category. Similar to employment, this level of coverage is projected to increase in the future as new business are most likely to locate in areas with existing airport coverage.

GOAL CATEGORY: FACILITIES AND ACCESSIBILITY

Facility and service objectives have been established with the purpose of providing a standard for adequate airside and landside facilities and aviation services. These objectives represent facilities and services which should ideally be available at system airports, and are determined according to the role assigned to each system airport. These facility and service objectives are intended as guidelines for future system development, as well as individual airport master planning studies. Air accessibility is also an important factor used to measure system performance. Air accessibility is influenced by factors such as the airport's type of approach (precision, non-precision, or visual), and the presence, or lack thereof, of on-site weather-reporting equipment.

Percent of population within a 30-minute drive time of an airport with an instrument approach procedure

Airports with precision or non-precision instrument approaches allow aircraft to safely approach a runway during reduced visibility conditions. Electronic guidance is provided to the aircraft in accordance with an established procedure. **Table 6-7** identifies system airports that currently have an instrument approach and system airport where an instrument approach is recommended. **Exhibit 6-8** shows that currently 97.5 percent of the state's population is within 30 nautical miles of an airport with an instrument approach procedure. This coverage is projected to increase to over 99 percent of the state's population with the implementation of recommended instrument approach procedures. Due to surrounding terrain and development, instrument approach procedures are not recommended at the Hurricane and Morgan airports. Due to potential airspace conflicts with Salt Lake City International an instrument approach procedure is not recommended for the Skypark Airport.

Table 6-7
Future Instrument Approach Analysis

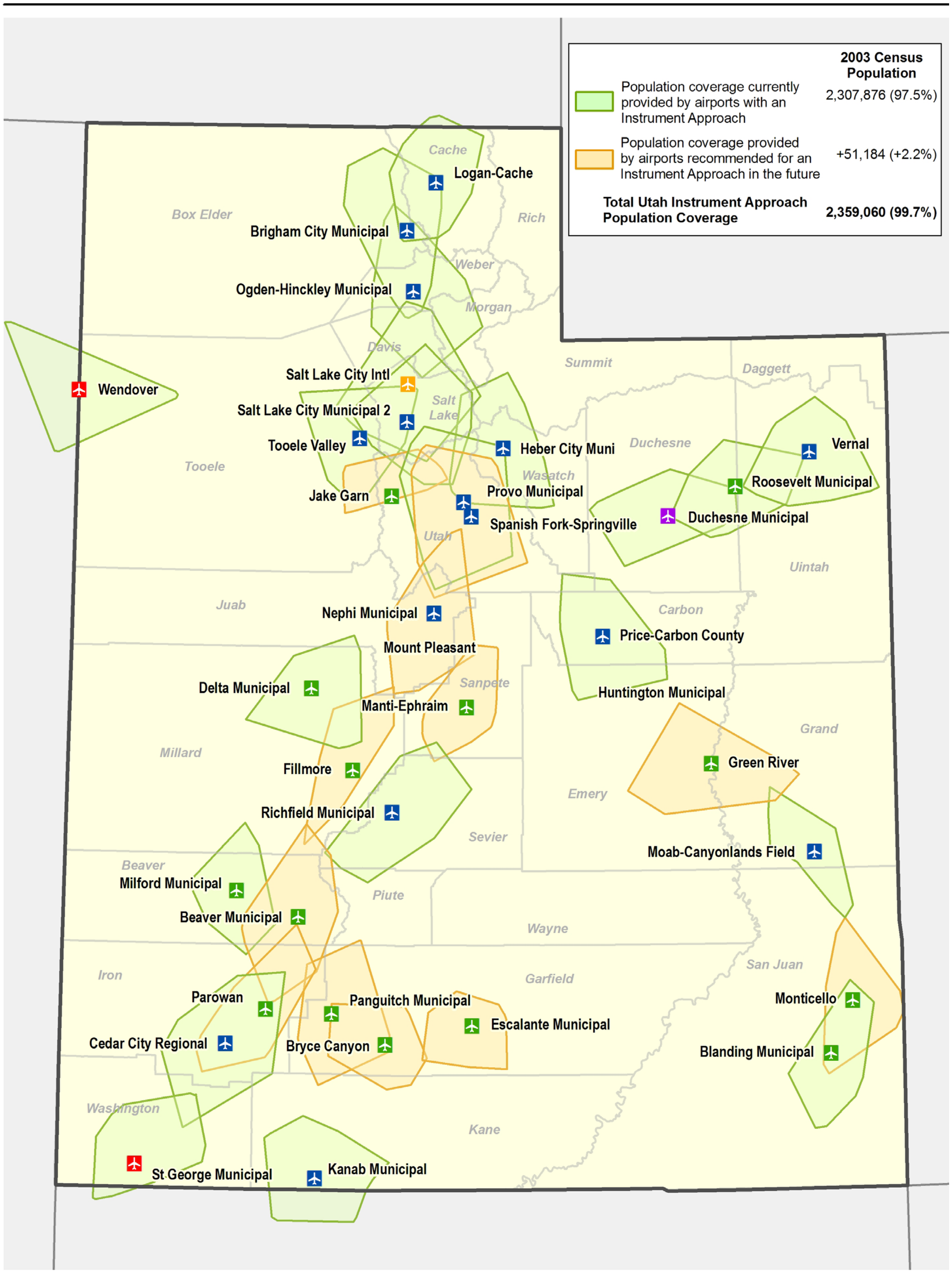
Associated City	Airport	Instrument Approach Procedure
International Airports		
Salt Lake City	Salt Lake City Intl	✓
National Airports		
St George	St George Municipal	✓
Wendover	Wendover	✓
Regional Airports		
Bountiful	Skypark	
Brigham City	Brigham City Municipal	✓
Cedar City	Cedar City Regional	✓
Heber	Heber City Muni	✓
Hurricane	Hurricane	
Kanab	Kanab Municipal	✓
Logan	Logan-Cache	✓
Moab	Moab-Canyonlands Field	✓
Morgan	Morgan County	
Nephi	Nephi Municipal	R
Ogden	Ogden-Hinckley Municipal	✓
Price	Price-Carbon County	✓
Provo	Provo Municipal	✓
Richfield	Richfield Municipal	✓
Salt Lake City	Salt Lake City Muni 2	✓
Spanish Fork	Spanish Fork-Springville	R
Tooele	Tooele Valley Airport	✓
Vernal	Vernal	✓
Community Airports		
Beaver	Beaver Municipal	R
Blanding	Blanding Municipal	✓
Bryce Canyon	Bryce Canyon	R
Delta	Delta Municipal	✓
Eagle Mountain	Jake Garn	R
Escalante	Escalante Municipal	R
Fillmore	Fillmore	R
Green River	Green River	R
Manti	Manti-Ephraim	R
Milford	Milford Municipal	✓
Monticello	Monticello	R
Panguitch	Panguitch Municipal	R
Parowan	Parowan	R
Roosevelt	Roosevelt Municipal	✓

Table 6-7, Continued
Future Instrument Approach Analysis

Associated City	Airport	Instrument Approach Procedure
Local Airports		
Bluff	Bluff Airport	
Duchesne	Duchesne Municipal	✓
Dutch John	Dutch John	
Glen Canyon Natl. Rec. Area	Bullfrog Basin	
Halls Crossing	Halls Crossing	
Hanksville	Hanksville	
Huntington	Huntington Municipal	✓
Junction	Junction	
Loa	Wayne Wonderland	
Manila	Manila	
Mount Pleasant	Mount Pleasant	
Salina	Salina-Gunnison	
✓- Airport has a published instrument approach **R** - Instrument approach recommended		

Source: UDOA, Wilbur Smith Associates, 2007

Exhibit 6-8
Current and Future Instrument Approach Population Coverage



Source: US Census 2003, Wilbur Smith Associates

Percent of population and land area within a 30-minute drive time of each Utah airport role category

Analysis in Chapter Five identified that the existing coverage by each airport role category is sufficient. The population coverage provided by airports in the GA Regional or higher classification is excellent at 96.5 percent. Limited additional population coverage is provided by airports in the lower role categories. These airports provide access to more remote areas of the state. Due to the high level of coverage provided by system airports, the primary goal should be to improve the airports in each category to meet identified facility and service objectives.

Percent of population and land area within a 30-minute drive time of an airport included in the FAA's National Plan of Integrated Airport Systems (NPIAS)

The National Plan of Integrated Airport System (2007-2011) indicates that 98 percent of the U.S. population lives with 20 miles of one the 3,431 airport included in the NPIAS. Analysis conducted in Chapter Five identified that Utah currently has 34 airports in the NPIAS providing coverage within a 30-minute drive time to 99 percent of the state's population. While it is not feasible to provide a NPIAS airport within a 30-minute drive of every Utah resident, it is possible that additional airports in Utah are significant to the national transportation system and should be included in the NPIAS.

There are several justifications for an airport to be included in the NPIAS. An existing airport that is included in an accepted state or metropolitan plan must have at least 10 based aircraft, and serve a community located within a 30-minute drive time. An existing or proposed airport not meeting the criteria above may be included in the NPIAS if <u>all</u> of the following criteria are met:

- It is included in an accepted state of metropolitan airport system plan
- It serves a community more than 30 minutes driving time from the nearest existing or proposed NPIAS airport
- It is forecast to have 10 based aircraft within five years
- There is an eligible sponsor willing to undertake the ownership of development of the airport

Additionally an airport not meeting the above criteria may still be included in the NPIAS based on a special justification. The justification must show that there is a significant national interest in the airport. Examples of special justifications include:

- A determination that the benefits of the airport will exceed its development costs
- Written documentation describing isolation
- Airports serving the needs of Native American communities
- Airports needed to support recreational areas
- Airports needed to develop or protect important national resources

Washington County is projected to be the fasted growing county in Utah in terms of population. This growth has prompted the construction of the new St. George Airport to meet the demands of this rapidly growing community. The Hurricane Airport, located in Washington County, also serves the needs of this area but is not currently included in the NPIAS. The Hurricane Airport has activity levels that exceed NPIAS inclusion criteria, and provides convenient access to significant recreational areas including Zion National Park. The UCASP recommends that this airport be included in the NPIAS.

Percent of registered pilots within a 30-minute drive time of a system airport

Analysis completed in Chapter Five revealed that among the state's 7,076 registered pilots only three live outside of the 30-minute system airport drive time boundaries. This excellent level of coverage is likely to improve over time as new pilots are most likely to reside in areas of existing airport coverage.

Percent of system airports meeting facility and service objectives

The previous chapter of the UCASP analyzed the ability of the system to meet minimum facility and service objectives established for each airport role. This analysis examined each airport's ability to meet current demand for airside facilities such as runway length, taxiways, and navigational aids (NAVAIDs), as well as landside facilities including aircraft storage, automobile parking, and terminal/pilots lounge based on their role's associated facility and service objectives.

Since airports in the system serve different roles, their need to provide facilities in each of these objective categories also varies. An objective has been established to have all system airports be 100 percent compliant with future facility and service objectives for their respective system roles. It should be noted that this is only an objective, and that some airports may not have the ability to fully meet the objectives due to constraints that are both physical and economical. However, it is recommended that all airports strive to meet these objectives when and if possible.

Future Airport Reference Code (ARC) analysis

Each airport's ability to meet its applicable FAA design standards is primarily a function of the master planning process, rather than the system planning process. To assess the performance of the Utah Airport System, it was nevertheless important to evaluate the ability of the airports and the system to meet basic design standards. A target of 94 percent has been set for system airports to meet their Airport Reference Code (ARC) objective. As identified in Chapter Five, 70 percent of all system airports now meet identified ARC objectives. **Table 6-8** provides information by airport role on which facilities fall short of their ARC objective.

Table 6-8
Future ARC Objective

Associated City	Airport	Existing ARC	ARC Objective
National			
St George**	St George Municipal	B-II	C-III
Regional			
Bountiful*	Skypark	B-I	C-II
Brigham City	Brigham City Municipal	B-II	C-II
Heber	Heber City Municipal	B-II	C-II
Hurricane*	Hurricane	B-I	C-II
Kanab	Kanab Municipal	B-II	C-II
Moab	Moab-Canyonlands Field	B-II	C-II
Morgan*	Morgan County	B-I	C-II
Richfield	Richfield Municipal	B-II	C-II
Salt Lake City	Salt Lake City Muni 2	B-II	C-II
Spanish Fork	Spanish Fork-Springville	B-II	C-II
Tooele	Tooele Valley Airport	B-II	C-II
Vernal	Vernal	B-II	C-II
Community			
Eagle Mountain	Jake Garn	A-I	B-II

* ARC upgrade not recommended
** Deficiency addressed with new airport
Source: UDOA, Wilbur Smith Associates, 2007

It is recommended that all airports with the exception of Skypark, Hurricane and Morgan, strive to meet the requirements associated with the recommended ARC objective. This would require the airports to meet all runway/taxiway separations and secure the associated safety areas in and around the runway system in order to meet standards. Projects to upgrade the ARC of the Skypark, Hurricane and Morgan airports are not recommended due to surrounding terrain and development which make upgrading of these airports impractical.

Future runway length analysis

From an airport system planning standpoint it is desirable to have 100 percent of all system airports meet their respective primary runway length objective. However at some system airports, a runway extension is currently unneeded or not practical. The current runway length of 8,000 feet at the Wendover has been determined to be adequate for current and projected operations. Additionally, runway extensions to meet identified objectives at the Skypark, Hurricane and Morgan airports are not practical due to surrounding terrain and\or development. Currently, 64 percent of the system airports comply with the primary runway length objective. With recommended improvements 91 percent of system airports will meet recommend runway length objectives. It should be noted that the objective for GA Local airports only recommends that airports maintain their existing facilities. The original runway length objectives are suitable for future performance and change is not recommended. Additionally, any runway extension would require justification, proper environmental documentation, and securing of all associated safety areas in order to be eligible for state and/or FAA funding. As a result, airports may not be able to implement some of the recommendations in this section due to environmental and/or man-made constraints that limit the development of airport runways.

Table 6-9 lists the airports that do not currently meet minimum runway length objective for their role and the runway length deficiency.

Table 6-9
Future Runway Length Objective Analysis

Associated City	Airport	Existing Primary Runway Length (in feet)	Recommended FAA Runway Length (in feet)*	Deficiency (in feet)
National 75% of large aircraft @ 90% useful load				
St George**	St George Municipal	6,606	8,600	1,994
Wendover	Wendover	8,000	8,600	600
Regional 75% of large aircraft @ 60% useful load				
Bountiful*	Skypark	4,700	6,220	1,520
Heber	Heber City Municipal	6,898	6,960	62
Hurricane*	Hurricane	3,410	6,110	2,700
Kanab	Kanab Municipal	6,193	6,600	407
Morgan*	Morgan County	3,904	6,640	2,736
Nephi	Nephi Municipal	6,300	6,840	540
Richfield	Richfield Municipal	6,600	6,800	200
Salt Lake City	Salt Lake City Muni 2	5,860	6,540	680
Spanish Fork	Spanish Fork-Springville	5,700	6,530	830
Tooele	Tooele Valley Airport	6,100	6,510	410
Vernal	Vernal	6,201	6,790	589
Community 75% of small aircraft				
Eagle Mountain	Jake Garn	2,500	4,620	2,120
Manti	Manti-Ephraim	4,584	4,790	206
Monticello	Monticello	4,817	6,030	1,213
Panguitch	Panguitch Municipal	5,700	5,730	30
Parowan***	Parowan	5,000	5,130	130

*Runway Extension Not Recommended
** Deficiency addressed with new airport
Source: UDOA, Wilbur Smith Associates, 2007

Future runway width analysis

The target performance set for this benchmark is to have 97 percent of all system airports meet their respective runway width objectives. Currently, 91 percent of all system airports currently comply with their runway width objectives.

Table 6-10 shows the airports that do not meet their runway width objectives and their deficiencies. Widening of the Morgan airport runway is not recommended due the inability of the airport to meet the majority of FAA runway and taxiway design standards.

Table 6-10
Future Runway Width Objective Analysis

Associated City	Airport	Current Width	Objective Width	Deficiency
Regional				
Hurricane	Hurricane	40'	75'	25'
Morgan*	Morgan County	50'	75'	15'
Community				
Eagle Mountain	Jake Garn	50'	75'	25'
Escalante	Escalante Municipal	60'	75'	15'

*Runway widening not recommended
Source: UDOA, Wilbur Smith Associates, 2007

Future runway strength analysis

Pavement strength requirements are typically identified during a master planning process and are determined through an analysis of existing and projected aircraft operation types and frequencies. For system planning purposes, pavement strength is presented in general terms and is tied to the airport role. Pavement strength defines the ability of a pavement section to handle recurring loads at specified weights. A pavement section can typically handle infrequent loading beyond the specified strength, while frequent loading beyond the specified strength can cause premature pavement failure. The following details the pavement strength objectives identified for each airport role:

- National – 60,000# Single Wheel Gear(SWG)
- GA Regional – 30,000# SWG
- GA Community – 12,500# SWG
- GA Local – 12,500# SWG

Table 6-11 shows the runway strength deficiencies at the airports that do not meet their recommended objective. It should be noted that current strength of each airport's runway is sufficient for the majority of existing users. However, as business jet activity increases as projected, some airports are likely to receive operations from aircraft heavier than the existing airport runways were designed to accommodate. Seventy-two percent of Utah's system airports currently meet runway strength objectives. The recommended strengths for each role have been determined to be sufficient for future activity. A target has been set for 94 percent of all system airports to meet the identified strength objective for their role. Runway strengthening projects are not recommended at the Skypark and Morgan airports since they are unable to be upgraded to accommodate larger aircraft requiring increased pavement strength. It is recommended that the Hurricane airport runway be upgraded to 12,500# SWG rather than 30,000# SWG for similar reasons.

Table 6-11
Future Runway Strength Objective Analysis

Associated City	Airport	Current Strength (in 000s)*	Strength Objective (in 000s)*	Deficiency (in 000s)*
National				
St George**	St George Municipal	26	60	34
Regional				
Bountiful*	Skypark	12	30	18
Heber	Heber City Municipal	12	30	18
Hurricane	Hurricane	3	12.5	9.5
Kanab	Kanab Municipal	12.5	30	17.5
Moab	Moab-Canyonlands Field	25	30	5
Morgan*	Morgan County	12.5	30	17.5
Richfield	Richfield Municipal	19	30	11
Salt Lake City	Salt Lake City Muni 2	12.5	30	17.5
Spanish Fork	Spanish Fork-Springville	12.5	30	17.5
Community				
Eagle Mountain	Jake Garn	4	12.5	8.5
Green River*	Green River	12	12.5	0.5
Monticello	Monticello	11	12.5	1.5
Local				
Salina	Salina-Gunnison	6	12.5	6.5
Pavement Strength Rating Based on Single Wheel Gear (SWG)				

*Runway strength upgrade not recommended
** Deficiency addressed with new airport
Source: UDOA, Wilbur Smith Associates, 2007

Future taxiway analysis

Taxiway objectives for each airport role category were established to accommodate the level and type of aircraft operations typically occurring at airports within each role. Seventy-eight percent of the system airports in Utah currently meet the identified taxiway objectives. A target objective has been set for 98 percent of system airports meet their taxiway type objectives for their respective roles with recommended improvements. A taxiway upgrade is not recommended for the Morgan airport due to the inability of the airport to meet the majority of FAA runway and taxiway design standards. **Table 6-12** identifies airports not currently meeting future taxiway objectives for their respective role. Also shown is the future taxiway objective for each airport.

Table 6-12
Future Taxiway Objective Analysis

Associated City	Airport	Current Taxiway	Taxiway Objective
National			
Wendover	Wendover	Partial Parallel	Full Parallel
Regional			
Hurricane	Hurricane	Turnarounds and Connector	Partial Parallel
Kanab	Kanab Municipal	Turnarounds and Connector	Partial Parallel
Morgan*	Morgan County	Turnarounds and Connector	Partial Parallel
Richfield	Richfield Municipal	Turnarounds and Connector	Partial Parallel
Community			
Eagle Mountain	Jake Garn	Connector	Turnarounds & Connector
Escalante	Escalante Municipal	Connector	Turnarounds & Connector
Manti	Manti-Ephraim	Connector	Turnarounds & Connector
Milford	Milford Municipal	Connector	Turnarounds & Connector

* Taxiway Upgrade Not Recommended
Source: UDOA, Wilbur Smith Associates, 2007

Future approach analysis

As mentioned earlier in this chapter and in Chapter Five, system airports were evaluated based on the type of approach available at the airport.

Table 6-13 depicts the type of approach available at airports that do not meet their role's objective in addition to the recommended instrument approach objective based on each airport's identified role.

Although it is desirable that the 100 percent target be met for all facility and service objectives, factors such as terrain and approach path obstructions limit the ability of certain airports to meet their recommended approach objectives. Currently 47 percent of system airports meet recommended instrument approach criteria. With recommended improvements 88 percent of system airports will meet recommended instrument approach objectives. Upgraded approach procedures are not recommended at Skypark, Morgan and Hurricane airports due to surrounding airspace conflicts or terrain restrictions.

Table 6-13
Future Approach Objective Analysis

Associated City	Airport	Current Approach	Approach Objective
National			
St George**	St George Municipal	Non-Precision Straight-In	Precision
Wendover	Wendover	Non-Precision Straight-In	Precision
Regional			
Bountiful*	Skypark	Visual	Non-Precision Straight-In
Heber	Heber City Municipal	Non-Precision Circling	Non-Precision Straight-In
Hurricane*	Hurricane	Visual	Non-Precision Straight-In
Morgan*	Morgan County	Visual	Non-Precision Straight-In
Nephi	Nephi Municipal	Visual	Non-Precision Straight-In
Spanish Fork	Spanish Fork-Springville	Visual	Non-Precision Straight-In
Community			
Beaver	Beaver Municipal	Visual	Non-Precision
Bryce Canyon	Bryce Canyon	Visual	Non-Precision
Eagle Mountain	Jake Garn	Visual	Non-Precision
Escalante	Escalante Municipal	Visual	Non-Precision
Fillmore	Fillmore	Visual	Non-Precision
Green River	Green River	Visual	Non-Precision
Manti	Manti-Ephraim	Visual	Non-Precision
Monticello	Monticello	Visual	Non-Precision
Panguitch	Panguitch Municipal	Visual	Non-Precision
Parowan	Parowan	Visual	Non-Precision

* Approach upgrade not recommended
** Deficiency addressed with new airport
Source: Wilbur Smith Associates, 2007

Instrument Landing Systems (ILS) have traditionally provided precision instrument approach capabilities at airports. These land-based facilities are often subject to interference with terrain, which make them either costly to install and maintain or prohibits their use altogether. The FAA has developed a plan for an extensive national airspace (NAS) modernization program with Global Positioning System (GPS) as the core technology. GPS is a space-based satellite navigation system free from terrain interference. These systems are significantly less costly to maintain than conventional land-based facilities. GPS is the basis of Wide Area Augmentation System (WAAS), an Approach Procedure with Vertical Guidance (APV). This relatively new category of instrument approaches includes the WAAS approach technology, Lateral Precision with Vertical Guidance (LPV). LPV has been operational since 2003, and currently provides precision approach accuracy with Category I descent minimums (200 feet above the surface).

Although LPV approaches are not true precision approaches, they provide near precision capabilities when landing an aircraft. The only downside to this system is that aircraft will be required to have the appropriate equipment installed to utilize the approach, which can be costly to the aircraft owner.

The FAA is also developing the Global Navigation Satellite System Landing System (GLS). GLS, which is programmed to come online by 2013, will provide Category II and III approach minimums to more runways in the U.S. than are currently available from traditional ILS technology.

Future visual aid analysis

Each airport's ability to meet the visual aid objective was identified in Appendix C. Currently 62 percent of system airports in Utah meet their visual aid objectives. With recommended improvements 94 percent of system airports will meet the visual aid objective. Those airports that do not currently meet their objectives are listed in **Table 6-14**, with their deficiencies. Upgraded visual aids are not recommended for the Hurricane and Morgan airports due to hazards created by terrain and the absence of runway lighting. These limitations prevent these airports from safely accommodating night-time operations.

Table 6-14
Future Airport Visual Aid Objective Analysis

Associated City	Airport	Visual Aid Needed
National		
St George**	St George Municipal	MALSR
Wendover	Wendover	MALSR
Regional		
Heber	Heber City Municipal	REILs
Hurricane*	Hurricane	GVGIs and REILs
Kanab	Kanab Municipal	REILs
Morgan*	Morgan County	GVGIs and REILs
Richfield	Richfield Municipal	REILs
Spanish Fork	Spanish Fork-Springville	REILs
Community		
Eagle Mountain	Jake Garn	GVGIs and REILs
Escalante	Escalante Municipal	GVGIs and REILs
Manti	Manti-Ephraim	REILs
Monticello	Monticello	REILs
Panguitch	Panguitch Municipal	REILs
MALSR - Medium-Intensity Approach Lighting System with Runway Alignment Indicator, GVGIs - Generic Visual Glideslope Indicators, REILs – Runway End Identifies Lights		

*Visual aid upgrade not recommended
** Deficiency addressed with new airport
Source: UDOA, Wilbur Smith Associates, 2007

Future lighting analysis

Runway and edge lights and rotating beacons provide guidance and visibility to pilots during periods of darkness or restricted visibility conditions. Currently 83 percent of system airports in Utah were found to meet the study's lighting objectives. With recommended improvements 96 percent of system airports will meet this development benchmark. Lighting upgrades are not recommended for the Hurricane and Morgan airports due to hazards created by surrounding terrain preventing these airports from safely accommodating night-time operations.

Table 6-15 indicates which airports currently do not meet their respective lighting objectives. Also shown are potential runway and taxiway lighting projects needed to meet identified objectives.

Table 6-15
Future Lighting Objective Analysis

Associated City	Airport	Current Lighting	Lighting Objective
Regional			
Bountiful	Skypark	LIRL	Upgrade to MIRL
Hurricane*	Hurricane	None	Install MIRL & Beacon
Morgan*	Morgan	None	Install MIRL & Beacon
Community			
Eagle Mountain	Jake Garn	None	Install MIRL & Beacon
Local			
Bluff	Bluff Airport	None	Install LIRL or Reflectors & Beacon
Dutch John	Dutch John	None	Install LIRL or Reflectors & Beacon
Glen Canyon Natl. Rec. Area	Bullfrog Basin	None	Install LIRL or Reflectors & Beacon
Junction	Junction	None	Install LIRL or Reflectors & Beacon
LIRL – Low Intensity Runway Lighting, MIRL – Medium Intensity Runway Lighting			

Lighting Upgrade Not Recommended
Source: UDOA, Wilbur Smith Associates, 2007

Future weather reporting analysis

On-site weather reporting equipment is a requirement at most airports to have an instrument approach procedure. Additionally automated weather reporting systems promote an increased safety margin during periods of inclement or changing weather. For this objective, all airport roles except GA Local have an objective to have automated weather reporting, either through an automated surface observing system (ASOS) or an automated weather observing system (AWOS).

Table 6-16 indicates which airports, by role, do not meet the weather reporting objectives and potential weather reporting projects recommended to meet future target objectives. Currently 71 percent of system airports meet the weather reporting objective. With recommended improvements 90 percent of system airports will meet the weather reporting objective. Weather reporting equipment is not recommended for the Skypark, or Morgan airports since neither airport currently has the ability to accommodate an instrument approach procedure.

Table 6-16
Future Weather Reporting Objective Analysis

Associated City	Airport	Current Weather Reporting	Weather Reporting Objective
Regional			
Bountiful*	Skypark	None	ASOS or AWOS
Hurricane*	Hurricane	None	ASOS or AWOS
Morgan*	Morgan County	None	ASOS or AWOS
Nephi	Nephi Municipal	None	ASOS or AWOS
Spanish Fork	Spanish Fork-Springville	None	ASOS or AWOS
Community			
Eagle Mountain	Jake Garn	None	ASOS or AWOS
Escalante	Escalante Municipal	None	ASOS or AWOS
Green River	Green River	None	ASOS or AWOS
Manti	Manti-Ephraim	None	ASOS or AWOS
Parowan	Parowan	None	ASOS or AWOS

*Weather Reporting Not Recommended
Source: UDOA, Wilbur Smith Associates, 2007

Future landside services

Airport services which are available to both local and transient pilots are often expected necessities, particularly at larger airports. Various levels and types of services have been identified for each airport role category based on the type of aircraft operations typically occurring at these airports. These services include public telephones, restrooms, Fixed Base Operator (FBO), aircraft maintenance, hangar storage, and ground transportation.

Table 6-17 identifies the recommended services that are not currently being provided at system airports. It is recommended that all airports strive to provide the recommended services in order for the airport to provide its maximum utility and benefit.

Table 6-17
Future Landside Services Objective Analysis

Associated City	Airport	Recommended Landside Service
National		
Wendover	Wendover	Rental Cars
Regional		
Hurricane	Hurricane	Public Telephone, Courtesy Car
Morgan	Morgan County	Public Telephone, Restrooms, Aircraft Maintenance, Courtesy Car
Nephi	Nephi Municipal	Aircraft Maintenance, Courtesy Car
Tooele	Tooele Valley Airport	Limited Service FBO, Aircraft Maintenance, Courtesy Car
Community		
Beaver	Beaver Municipal	Restrooms, Limited Service FBO, Courtesy Car
Delta	Delta Municipal	Limited Service FBO, Courtesy Car
Eagle Mountain	Jake Garn	Public Telephone, Restrooms, Limited Service FBO, Courtesy Car
Escalante	Escalante Municipal	Limited Service FBO, Courtesy Car
Fillmore	Fillmore	Courtesy Car
Green River	Green River	Courtesy Car
Manti	Manti-Ephraim	Limited Service FBO, Courtesy Car
Milford	Milford Municipal	Courtesy Car
Panguitch	Panguitch Municipal	Limited Service FBO, Courtesy Car
Parowan	Parowan	Public Telephone
Roosevelt	Roosevelt Municipal	Courtesy Car
Local		
Bluff	Bluff Airport	Public Telephone, Restrooms
Dutch John	Dutch John	Public Telephone, Restrooms
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Public Telephone
Huntington	Huntington Municipal	Public Telephone
Junction	Junction	Public Telephone, Restrooms
Loa	Wayne Wonderland	Restrooms
Manila	Manila	Public Telephone, Restrooms
Mount Pleasant	Mount Pleasant	Restrooms
Salina	Salina-Gunnison	Public Telephone

Source: UDOA, Wilbur Smith Associates, 2007

Future landside facilities

Landside facilities are important infrastructure elements of system airports. Terminal buildings are typically seen as both an airport's and community's "welcome center" when people travel to an area by aircraft. General aviation terminals at many airports house the FBO, a pilots' lounge, and a weather information area. Other important facilities include: short term hangar space, apron and tie-down space, perimeter fencing and security gates.

The following hangar space objectives were established for the four airport roles:

- National – 75 percent of based aircraft plus 25 percent of transient overnight aircraft
- GA Regional – 60 percent of based aircraft plus 25 percent of transient overnight aircraft
- GA Community – 50 percent of based aircraft plus 25 percent of transient overnight aircraft
- GA Local – Maintain existing facilities

The following apron and tie-down space objective were established for the four airport roles:

- National – 25 percent of based aircraft plus 75 percent of transient overnight aircraft
- GA Regional – 40 percent of based aircraft plus 50 percent of transient overnight aircraft
- GA Community – 50 percent of based aircraft plus 25 percent of transient overnight aircraft
- GA Local – Maintain existing facilities

Full perimeter security or wildlife fencing was determined to be necessary at all system airports. **Table 6-18** identifies recommended landside facilities that are not currently being provided or have been determined to be inadequate at system airports. Details regarding the each recommended landside facilities are identified on the individual airport summary sheets included as an appendix to the study.

Table 6-18
Future Landside Facilities Objective Analysis

Associated City	Airport	Recommended Landside Facilities
National		
St George*	St George Municipal	Tie-downs
Regional		
Bountiful	Skypark	Tie-downs, Security Gates
Brigham City	Brigham City Municipal	Tie-downs, Auto Parking
Heber	Heber City Municipal	Tie-downs, Auto Parking
Hurricane	Hurricane	Tie-downs, Auto Parking
Logan	Logan-Cache	Tie-downs
Moab	Moab-Canyonlands Field	Hangars, Full Perimeter Fencing
Morgan	Morgan County	Tie-downs, Auto Parking, Hangars, Full Perimeter Fencing
Nephi	Nephi Municipal	Auto Parking
Price	Price-Carbon County	Hangars, Full Perimeter Fencing
Spanish Fork	Spanish Fork-Springville	Tie-downs, Auto Parking, Full Perimeter Fencing
Tooele	Tooele Valley Airport	Terminal, Hangars

* Deficiency addressed with new airport

Table 6-18, Continued
Future Landside Facilities Objective Analysis

Associated City	Airport	Recommended Landside Facilities
Community		
Beaver	Beaver Municipal	Pilots Lounge, Auto Parking, Full Perimeter Fencing
Blanding	Blanding Municipal	Full Perimeter Fencing
Bryce Canyon	Bryce Canyon	Hangars
Delta	Delta Municipal	Security Gates
Eagle Mountain	Jake Garn	Pilots Lounge, Hangars Tie-downs, Auto Parking, Full Perimeter Fencing
Fillmore	Fillmore	Auto Parking, Full Perimeter Fencing
Green River	Green River	Hangars, Full Perimeter Fencing
Manti	Manti-Ephraim	Auto Parking
Monticello	Monticello	Full Perimeter Fencing
Panguitch	Panguitch Municipal	Pilots Lounge
Parowan	Parowan	Auto Parking, Security Gates
Roosevelt	Roosevelt Municipal	Auto Parking, Security Gates
Local		
Bluff	Bluff Airport	Pilots Lounge, Security Gates
Duchesne	Duchesne Municipal	Security Gates
Dutch John	Dutch John	Upgrade Fencing
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Pilots Lounge, Security Gates
Halls Crossing	Halls Crossing	Full Perimeter Fencing
Hanksville	Hanksville	Pilots Lounge
Huntington	Huntington Municipal	Upgrade Fencing
Junction	Junction	Pilots Lounge, Full Perimeter Fencing
Loa	Wayne Wonderland	Pilots Lounge, Security Gates
Manila	Manila	Pilots Lounge, Upgrade Fencing
Mount Pleasant	Mount Pleasant	Pilots Lounge
Salina	Salina-Gunnison	Pilots Lounge, Full Perimeter Fencing

Source: UDOA, Wilbur Smith Associates, 2007

SUMMARY

The next chapter presents the financial needs of the recommended system, reviews the airport priority system, policy issues related to implementing recommendations, and specific action items for the stakeholders in the system.

Chapter Seven: Financial and Implementation Plan

With analysis of Utah's future airport system needs completed, the costs to implement the recommendations and the steps associated with implementation can be determined. This chapter presents the financial needs of the recommended system, policy issues related to implementing recommendations and specific action items for the stakeholders in the system.

DEVELOPMENT COSTS

Costs that are discussed in the final section of this chapter are those that may be incurred to improve the performance of the system to meet identified targets, to resolve deficiencies noted for facility and service objectives, and to implement current capital improvement plans (CIPs). The scope of this plan does not allow detailed cost estimates to be developed, only planning level estimates for determining the general financial needs of the entire airport system. Costs were estimated for each airport in the system for three planning periods: short-term (0-5 years), mid-term (6-10 years), and long-term (11-20 years). The costs presented are in constant 2007 dollars and do not account for inflation. The individual airport costs and a summary of the Utah Continuous Airport System Plan's (UCASP) findings related to each airport are presented in **Appendix D**.

To develop costs shown in this chapter, average unit costs from recently completed projects were used. These costs are not reflective of airport-specific conditions, which might cause costs to be higher, or in some instances lower. It is most likely that cost estimates provided in this chapter are conservative and that actual costs will exceed these estimates. It is important to note that inclusion of a project in this document does not commit state or federal funding for that project. It is the role of the airport master plan to develop detailed cost estimates for airport-specific projects noted in this document and provide justification and sufficient environmental evaluation prior to implementation of the projects.

To fully fund all projects identified by this plan, to meet deficiencies related to performance measures, and planned capital improvement projects that have been identified by study airports, an estimated $752 million in federal, state, and local funds would be needed over the next 20 years. **Table 7-1** reflects these costs by airport classification. As previously mentioned, costs provided in this section have not been developed to the level of detail that would result from master planning, a financial feasibility study, or an engineering study. The costs discussed in this section provide the Utah Division of Aeronautics (UDOA) with an understanding of the general cost range that could be associated with achieving higher compliance ratings for each of the performance measures identified in this plan. Costs shown in Table 7-1 fund necessary pavement maintenance projects identified by the UDOA pavement maintenance program. The costs also include funds to construct the new St. George airport.

Table 7-1
Total Development Costs by Airport Classification (In Millions)

AIRPORT CLASSIFICATION	ESTIMATED COSTS
International Airports	$200.63
National Airports	$210.78*
Regional Airports	$245.58
Community Airports	$65.03
Local Airports	$30.18
Total System	**$752.20**

Source: Wilbur Smith Associates, 2007
Note: Estimated costs may not equal sum due to rounding.
*Includes $190 million for the new St. George airport

Table 7-2 identifies estimated costs by project type. It is worth noting that the costs shown in Table 7-2 will continually change over time. It is difficult to determine specific project costs when projects occur beyond the short-term planning horizon. Therefore, estimated costs for the long-term planning horizon are likely to be significantly higher.

Table 7-2
Total Development Costs by Airport Specific Project Types

PROJECT TYPE	Short-Term 1-5 Year	Mid-Term 6-10 Year	Long-Term 11-20 Year	TOTAL ESTIMATED COST
Runways	$129,536,508	$138,225,095	$35,043,071	$302,804,674
Taxiways	$34,065,584	$33,305,587	$1,457,236	$68,828,407
Land Acquisition	$38,254,332	$31,519,736	$100,613,090	$170,387,158
Pavement Maintenance	$66,476,154	$58,630,516	$1,845,313	$126,951,983
NAVAIDs/Lighting/Approaches	$2,140,665	$2,250,494	$986,843	$5,378,002
Terminal Area[1]	$34,098,084	$28,656,075	$3,199,704	$65,953,863
Airside Development Subtotal	**$304,571,327**	**$292,587,503**	**$143,145,256**	**$740,304,087**
Airport Equipment/Equipment Bldg	$2,552,632	$394,736	$0	$2,947,368
Security/Fencing[2]	$827,571	$197,369	$0	$1,024,940
Obstruction Removal	$1,296,010	$125,000	$0	$1,421,010
Planning/Environmental	$4,947,369	$1,381,580	$164,474	$6,493,423
Landside Development Subtotal	**$9,623,582**	**$2,098,685**	**$164,474**	**$11,886,741**
Total Development Costs	**$314,194,909**	**$294,686,188**	**$143,309,730**	**$752,190,828**

Source: Wilbur Smith Associates, 2007
Note 1: Terminal area costs include terminal buildings, aprons, hangars, fuel, auto parking spaces, access road improvements, and miscellaneous utilities.
2: Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

As previously mentioned, projects and costs will continue to change over the 20-year planning period. While the long-term estimated costs account for 19 percent of the total development estimate over the 20-year period, they are conservative estimates and it is likely that this planning horizon will experience actual costs far in excess of what is estimated.

Tables 7-3 through **7-6** provide cost estimates by airport role and by project type over the planning horizons. These cost estimates are generally reflective of the cost that could be incurred over the next 20 years to enable airports in Utah to meet facility and service objectives established by this study, as well as address airport-specific CIP projects. It is important to note that not all projects listed are eligible for Federal Aviation Administration (FAA) or state funding.

Table 7-3
Total Development Costs by
Airport Project Type and Airport Classification (In Millions)

PROJECT TYPE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
Airside Development	$199.13	$210.78*	$240.33	$62.19	$27.88	$740.3
Landside Development	$1.5	$0	$5.3	$3.0	$2.2	$11.9
Total	**$200.63**	**$210.78**	**$245.60**	**$65.19**	**$30.08**	**$752.20**

*Includes $190 million for construction of the new St. George Airport
Source: Wilbur Smith Associates, 2007
.

Table 7-4
Short-Term (2007-2012) Development Costs by Airport Project Type and Airport Classification

PROJECT TYPE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
Runways	$16,112,167	$95,000,000	$18,424,341	$0	$0	$129,536,508
Taxiways	$17,312,167	$0	$12,884,256	$3,474,425	$394,736	$34,065,584
Land Acquisition	$29,000,000	$0	$7,611,841	$1,642,491	$0	$38,254,332
Pavement Maintenance	$17,312,167	$702,629	$32,553,399	$8,896,836	$7,011,123	$66,476,154
NAVAIDs/ Lighting	$0	$0	$1,482,133	$457,238	$201,294	$2,140,665
Terminal Area[1]	$19,827,000	$6,134,869	$7,340,493	$400,986	$394,736	$34,098,084
Airside Development Subtotal	**$99,563,501**	**$101,837,498**	**$80,296,463**	**$14,871,976**	**$8,001,889**	**$304,571,327**
Airport Equipment/ Equipment Buildings	$1,500,000	$0	$263,158	$789,474	$0	$2,552,632
Security/ Fencing[2]	$0	$0	$197,368	$432,834	$197,369	$827,571
Obstruction Removal	$0	$0	$842,105	$453,905	$0	$1,296,010
Planning/ Environmental	$0	$0	$2,401,316	$572,369	$1,973,684	$4,947,369
Landside Development Subtotal	**$1,500,000**	**$0**	**$3,703,947**	**$2,248,582**	**$2,171,053**	**$9,623,582**
Total	**$101,063,501**	**$101,837,498**	**$84,000,410**	**$17,120,558**	**$10,172,942**	**$314,194,909**

Source: Wilbur Smith Associates, 2007

Note: 1: Terminal area costs include terminal buildings, aprons, hangars, fuel, auto parking spaces, access road improvements, and miscellaneous utilities.
2: Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Table 7-5
Mid-Term (2013-2017) Development Costs by Airport Project Type and Airport Classification

PROJECT TYPE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
Runways	$16,112,167	$95,000,000	$16,757,664	$10,355,264	$0	$138,225,095
Taxiways	$17,312,167	$5,921,053	$6,720,394	$3,351,973	$0	$33,305,587
Land Acquisition	$29,000,000	$0	$2,519,736	$0	$0	$31,519,736
Pavement Maintenance	$17,312,167	$702,629	$28,506,781	$5,636,148	$6,472,791	$58,630,516
NAVAIDs/Lighting	$0	$687,500	$592,500	$970,494	$0	$2,250,494
Terminal Area[1]	$19,827,000	$0	$7,547,101	$162,500	$1,119,474	$28,656,075
Airside Development Subtotal	**$99,563,500**	**$102,311,181**	**$62,644,176**	**$20,476,378**	**$7,592,265**	**$292,587,503**
Airport Equipment/Equipment Buildings	$0	$0	$394,736	$0	$0	$394,736
Security/Fencing[2]	$0	$0	$0	$197,369	$0	$197,369
Obstruction Removal	$0	$0	$0	$125,000	$0	$125,000
Planning/Environmental	$0	$0	$986,843	$394,738	$0	$1,381,580
Landside Development Subtotal	**$0**	**$0**	**$1,381,579**	**$717,106**	**$0**	**$2,098,685**
Total	**$99,563,500**	**$102,311,181**	**$64,025,755**	**$21,193,484**	**$7,592,265**	**$294,686,188**

Source: Wilbur Smith Associates, 2007

Note: 1: Terminal area costs include terminal buildings, aprons, hangars, fuel, auto parking spaces, access road improvements, and miscellaneous utilities.

2: Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Table 7-6
Long-Term (2018-2027) Development Costs by Airport Project Type and Airport Classification

PROJECT TYPE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
Runways	$0	$0	$20,623,899	$6,693,249	$0	$27,317,148
Taxiways	$0	$0	$875,000	$582,236	$0	$1,457,236
Land Acquisition	$0	$0	$0	$0	$986,843	$986,843
Pavement Maintenance	$0	$6,629,558	$73,455,798	$18,498,618	$9,755,041	$108,339,014
NAVAIDs/Lighting	$0	$0	$0	$667,500	$1,144,063	$1,811,563
Terminal Area[1]	$0	$0	$2,431,579	$398,750	$403,125	$3,233,454
Airside Development Subtotal	**$0**	**$6,629,558**	**$97,386,275**	**$26,840,353**	**$12,289,071**	**$143,145,256**
Airport Equipment/Equipment Bldg	$0	$0	$0	$0	$0	$0
Security/Fencing[2]	$0	$0	$0	$0	$0	$0
Obstruction Removal	$0	$0	$0	$0	$0	$0
Planning/Environmental	$0	$0	$164,474	$0	$0	$164,474
Landside Development Subtotal	**$0**	**$0**	**$164,474**	**$0**	**$0**	**$164,474**
Total	**$0**	**$6,629,558**	**$97,550,749**	**$26,840,353**	**$12,289,071**	**$143,309,730**

Source: Wilbur Smith Associates, 2007

Note: 1: Terminal area costs include terminal buildings, aprons, hangars, fuel, auto parking spaces, access road improvements, and miscellaneous utilities.

2: Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Table 7-7 identifies total developments costs by airport system performances measure as analyzed in chapter five of the UCASP. Among the costs identified, the largest share is for projects to upgrade airports to accommodate business jets. However, many of the performance measure categories contain duplicative projects. For example, many of the runway extension and runway strengthening projects are needed for airports to meet several performance measures such as accommodating very light jets (VLJ's) or business jets.

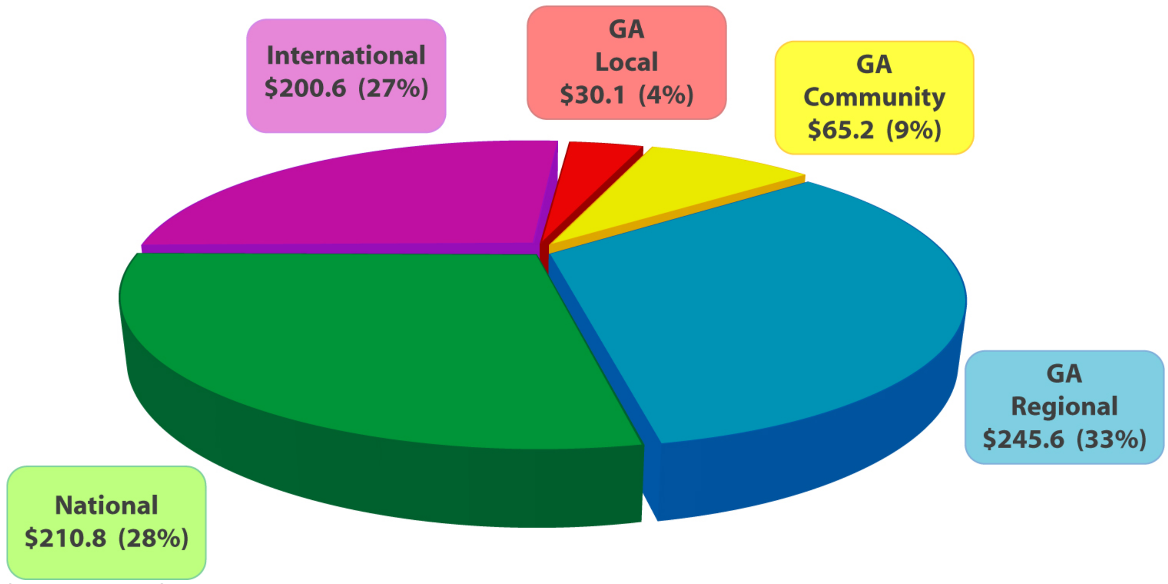
Table 7-7
Total Development Costs by
Performance Measure and Airport Classification

PERFORMANCE MEASURE	ESTIMATED COST					
	INTERNATIONAL AIRPORTS	NATIONAL AIRPORTS	GA REGIONAL AIRPORTS	GA COMMUNITY AIRPORTS	GA LOCAL AIRPORTS	TOTAL
VLJ Projects	$0	$0	$1,098,619	$3,970,486	$0	$5,069,105
Emergency Air Medical Service Projects	$0	$0	$307,500	$4,048,611	$0	$4,356,111
Business Jet Projects	$0	$190,000,000	$19,104,194	$0	$0	$209,104,194
Runway Extension Projects	$0	$0	$17,259,621	$6,652,960	$0	$23,912,581
Runway Strengthening Projects	$0	$0	$22,538,855	$3,437,500	$0	$25,976,355
Taxiway Projects	$0	$3,421,053	$5,394,736	$2,224,426	$0	$11,040,215

Source: Wilbur Smith Associates, 2007

Exhibit 7-1 summarizes the estimated 20-year costs by airport role. As shown in Exhibit 7-1, 87 percent of these costs relate to raising the level of performance for International, National and GA Regional Airports in Utah (27, 28, and 33 percent respectively). The remaining 13 percent (9 and 4 percent) is needed to raise the level of performance of Community and Local Airports. It should be noted that $190 million of the National Airport costs are for the construction of the new St. George airport.

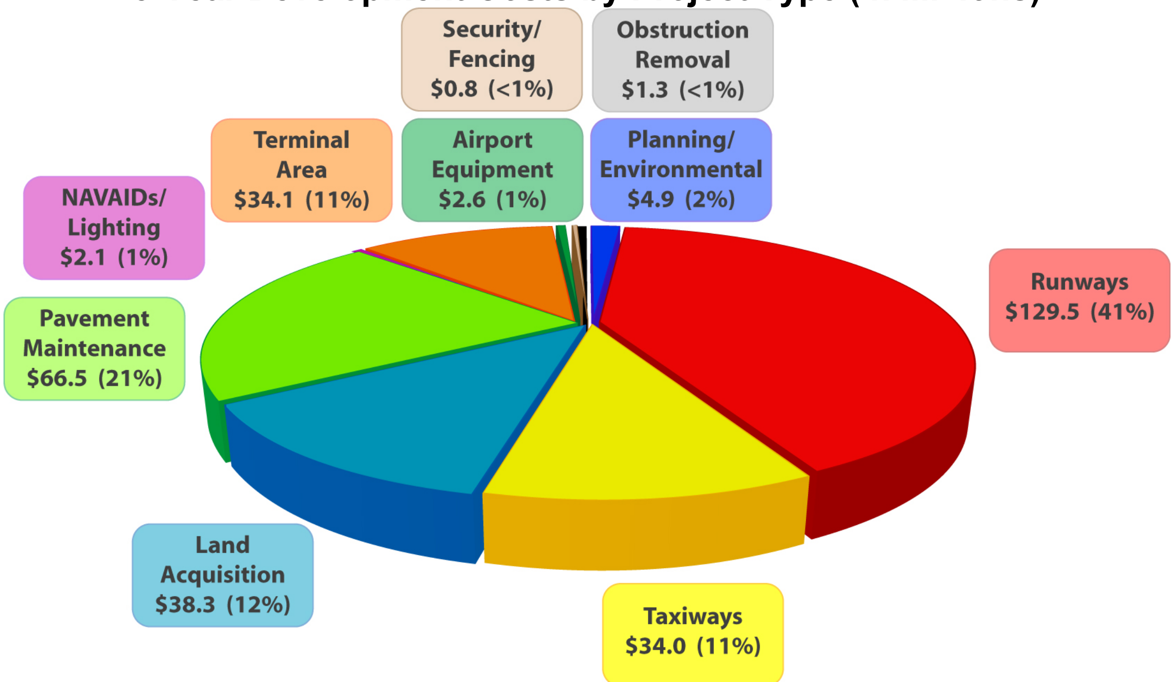
Exhibit 7-1
20-Year Development Costs by Airport Role (In Millions)



Source: Wilbur Smith Associates, 2007

Exhibit 7-2 reflects short-term (5-year) development costs by project type. Runways and pavement maintenance costs account for 41 and 21 percent, respectively, of the 5-year costs. Terminal area related projects account for 11 percent of the total estimated development costs. The remaining 27 percent of the $314 million short-term development costs include NAVAIDs/lighting, airport equipment, security/fencing, planning/environmental, taxiways, land acquisition, and obstruction removal projects. It should be noted that $95 million of the funding identified for runway improvements is for construction of the new St. George airport.

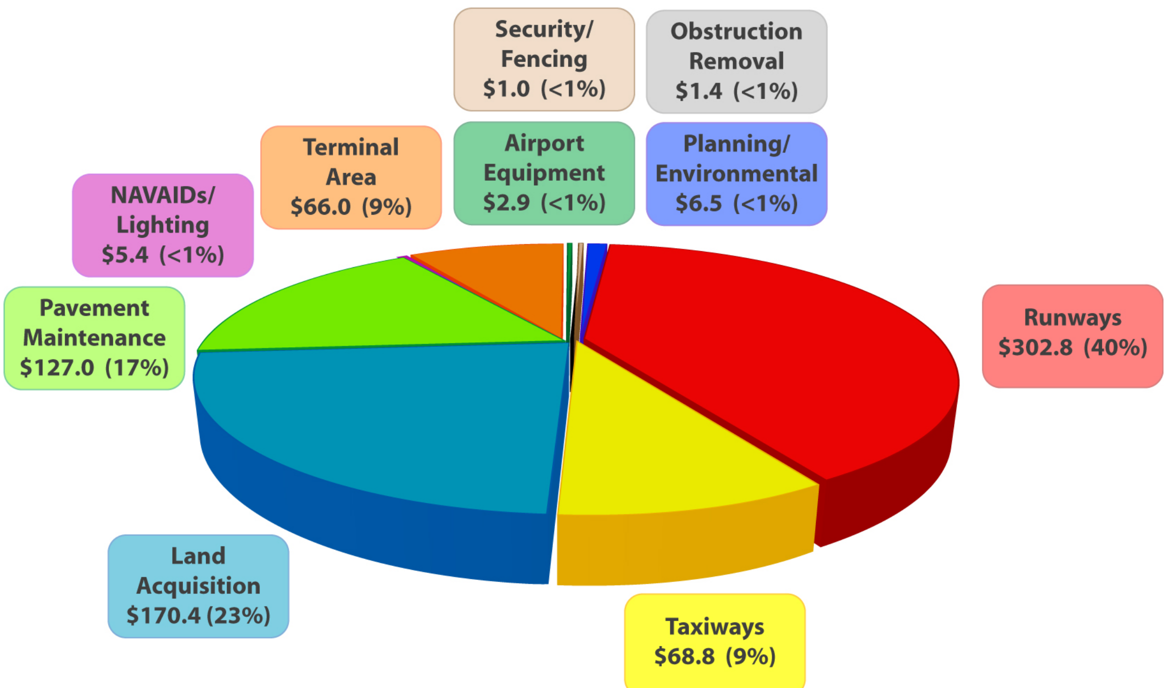
Exhibit 7-2
5-Year Development Costs by Project Type (In Millions)



Source: Wilbur Smith Associates, 2007

Total development costs expected over the next 20 years are shown in **Exhibit 7-3** by project type. Approximately 98 percent of total development costs are anticipated for airside development projects including runways, taxiway, aprons and pavement maintenance at system airports in Utah. Also worth noting is that $190 million of the funds identified for runway improvements is related to construction of the new St. George airport.

Exhibit 7-3
20-Year Development Costs by Project Type (In Millions)



Source: Wilbur Smith Associates, 2007

POLICY ISSUES

The UCASP uses a strategic approach to identify and evaluate the needs of the Utah airport system over the next 20 years. In order for these identified needs to be met, goals and policies need to be established and implemented to support the findings of the UCASP. The following identifies policy issues that should be considered in the development and improvement of the Utah system of airports.

Development of the UCASP included identification of goals and associated performance measures to guide the development of the Utah airport system. It is recommended that the UCASP goals be supplemented by the following goals developed by UDOT to reflect consistency in transportation goals for the entire state:

- Take Care of What We Have
- Make the System Work Better
- Improve Safety
- Increase Capacity

Take Care of What We Have places a high priority on pavement maintenance. Conducting timely and appropriate maintenance of pavements has proven to be one of the most cost-effective ways to preserve airport pavements at an acceptable pavement condition index (PCI) level.

Make the System Work Better is accomplished by providing adequate airport facilities and services at each system airport to meet the needs of current and projected airport users. The UCASP identifies recommended facilities and services for each airport role category.

Improve Safety entails developing a safe and secure system of airports that meets state and FAA standards.

Increase Capacity is accomplished through zoning and land-use protection surrounding airports. The ability to increase airport capacity is directly influenced by surrounding land uses. Additionally, zoning around airports needs to provide for the possibility of future airport expansions. Increasing capacity can be difficult or impossible at airports surrounded by incompatible land uses and development.

The mission statement of the Utah Division of Aeronautics reads as follows:

> *Promote and foster aviation in Utah by providing safe and functional airport systems as an integral part of the statewide transportation program. Supply safe and efficient air transportation to state agencies and those conducting state business. Provide quality maintenance for state-owned aircraft. Be team oriented and sensitive to the needs of each individual in the organization and customers.*

The first portion of the mission statement relates directly to the goals established by UDOT described above and the recommendations of this plan. Further, it provides consistency between the existing mission and the findings of the UCASP.

Existing Guidelines and Recommendations

Existing guidelines followed by the UDOA include a policy of leveraging state funds to maximize federal airport development funds for Utah airports. This is accomplished through the Division's practice of assisting airport sponsors with the required matching funds for FAA airport improvement grants at eligible airports. Airports eligible for funding are those included in the FAA National Plan of Integrated Airport Systems (NPIAS) with the exception of the three Primary Commercial Service airports: Salt Lake City International, St. George and Wendover. The amount of funding provided by the UDOA is on a sliding scale based on the total project cost. The Division provides assistance with matching funds only for FAA projects exceeding $600,000. The amount of state funding provided increases to a maximum of one-half of the required local match for FAA projects exceeding a total cost of $1.1 million. Eligible state funded projects are typically funded at 90 percent of the total project cost with the remaining 10 percent being the responsibility of the airport sponsor. The matching of federal grants receives the highest priority for state funds. After all eligible FAA grants have been matched, the remaining funds are utilized in support of the state grant program.

Project Priority Rating System

To assist in prioritizing the use of limited state funds, the UDOA has developed a project priority rating system. The following formula forms the basis of the UDOA project prioritization system:

Priority Rating = (Project Category + Project Item)*Y*Z

The formula is comprised of the following four components: Project Category, Project Item, Y and Z. Project Category is determined by the category of airport project requested, with pavement preservation projects, planning and projects needed to meet airport standards receiving the highest priority, particularly at airports with at least 25 based aircraft. Project Item is based on the type of airport improvement requested with projects associated airside development receiving priority. Y increases the priority of projects at airports with compatible land use plans in place. Z is a subjective measure ascribed by UDOA which takes into consideration the size of the project, how the project relates to other airport development items, the availability of federal funds, and economies of scale. **Table 7-8** provides additional detail on the UDOA project priority rating system.

Table 7-8
UDOA Project Priority Rating System

Project Category			
Based Aircraft	75 or more based Aircraft	25 to 74 Based Aircraft	Less than 25 Based Aircraft
Preservation[1]	10	10	7
Standards and Planning	10	10	5
Upgrade	9	8	4
Capacity	9	8	3
Project Items			
5	Primary runway and associated taxiways, Runway lighting and approaches		
4	Aprons, taxiway lighting, fencing and land acquisitions		
3	Paved secondary runways and associated taxiways		
	Planning and Weather reporting equipment (AWOS, Automated Unicom)		
2	Unpaved secondary runways and associated taxiways		
1	All other items		
Y			
1.15	Full zoning and compatible land use plans are in place for the entire Horizontal Surface		
1.1	Compatible land use plan in place but does not cover the entire Horizontal Surface		
1.0	Limited or no zoning in the Horizontal Surface		
Z Factor between 0 and 1.5 ascribed by the UDOA			
0 – 1.5	Project amount		
0 – 1.5	Use of Federal money		
0 – 1.5	Multiple projects		
0 – 1.5	Economies of scale		

Source: UDOA, Wilbur Smith Associates, 2007
Note: 1: Surface must be identified in the Airport Pavement Preservation Plan or the value is halved.

The guidelines utilized by the UDOA to prioritize airport development projects closely follow the priorities set forth by the FAA. By funding high priority FAA projects, the state better positions itself to compete nationally for additional FAA discretionary funds. This enables to Division to further leverage state airport development funds.

It is recommended that the UDOA consider including the airport role classification identified in this plan in the project prioritization process. Airports in higher role classifications typically serve greater numbers of users, thus projects at these airports are better able to raise the performance level of the airport system.

To protect the significant taxpayer investment that has been made in the state's airport system, it is recommended that priority consideration be given to projects that upgrade or increase airport capacity at airports with surrounding compatible land uses and protective zoning in place. Airports not meeting these conditions should be maintained in their present condition, with an emphasis on working with those airports to implement compatible land use and protective zoning. Funding of land acquisition or other projects to promote airport compatibility with the surrounding area should be given a high priority after maintenance.

FUNDING SOURCES

Funding for airport improvement projects is an important issue when considering the future of Utah's aviation system. In order to meet user needs, airports typically rely on funding sources beyond their own revenue. The ability of individual airport sponsors to identify funding sources and to successfully obtain funding directly influences development.

There are various sources of funding available to airports in Utah. It is important to note that each year funding needs exceed funds available. In general, funding for capital improvement projects can be secured from the following sources: federal, state, local, or private funds. Implementation of the recommendations presented in the UCASP will require significant commitment on the part of all funding sources. A brief description of each funding source is presented in the following sections.

Federal Funding Sources and VISION-100

The FAA, through the Airport Improvement Plan (AIP), distributes federal funds back to the nation's public airport system from the Airport and Airway Trust Fund. The Airport and Airway Trust Fund was originally established in 1970 and has since been amended on numerous occasions. The fund, supplied by money collected only from the users of the nation's airport system, is used to fund airport improvements. Only airports in the NPIAS are eligible to apply for FAA funding. Of the 47 public-use airports in Utah, 34 are currently included in the NPIAS and are eligible to apply for federal funding. Utah's five commercial airports and 29 of the 42 general aviation airports are included in the NPIAS. The UCASP recommends that one additional airport be included in the NPIAS to meet the needs of a fast growing population and tourism industry in the southwest portion of the state. This new NPIAS airports would then be eligible to apply for FAA funding.

In 2007, AIP provided $3.5 billion in funding to eligible NPIAS airports in the United States. **Table 7-9** presents total AIP funding for all eligible U.S. airports for fiscal years 2000 through 2007.

Table 7-9
U.S. Historical AIP Funding (Billions)

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Total AIP Funding	$1.85	$3.20	$3.30	$3.40	$3.40	$3.50	$3.60	$3.5*

Source: FAA Airports Financial Assistance Division, 2007
* Estimated from FAA Annual Report on Accomplishments.

VISION-100 was signed into law in December 2003 and reauthorized the AIP program through 2007. VISION-100 contained a number of significant changes from the AIP budget authorizations undertaken in conjunction with the development of the Aviation Trust Fund. The four main changes to the 2003 authorization were:

- Non-primary entitlement funds can be accumulated for up to four years, instead of three.
- Federal portion of the AIP eligible projects increased from 90 percent to 95 percent.
- If no airside improvement projects are needed, AIP funds can be used for items such as fuel farms, aircraft hangars, and general aviation terminals.
- Airports may choose to waive their entitlement funds, and FAA can reallocate those funds to airports in the same geographical area or state.

Commercial service airports receive entitlement funds based on the number of passengers they enplane during the prior calendar year. The minimum passenger entitlement funding for Primary Commercial Service Airports (those airports enplaning at least 10,000 passengers per year) is $1 million. Commercial service airports may also receive cargo entitlement funding based on the landed weight of cargo aircraft.

General aviation airports included in the NPIAS are eligible for state apportionment funds and non-primary entitlement funds. State apportionment funds are allocated to states based on a formula using the size and population of the state. Those funds are distributed to airports based on FAA prioritization of projects. General aviation airports are currently eligible for up to $150,000 in non-primary entitlement funds. To obtain these funds, airports must have a 5-Year CIP with eligible projects that meet AIP justification guidelines.

General aviation and commercial service airports compete for federal discretionary funds. These funds are awarded based on priority ratings given to each potential project by the FAA. The prioritization process ensures that the most important and beneficial projects (as viewed by the FAA) are the first to be completed, given the availability of adequate discretionary funds. Federal funding is limited to development that is justified to meet aviation demand according to FAA guidelines. Each airport development project, including those recommended in the UCASP, will be subject to eligibility and justification requirements as part of the normal AIP funding process.

As of the writing of this document, the AIP program is up for reauthorization and will likely see changes. The future of the AIP program may include changes to federal share amounts, non-primary entitlements, set-asides, and/or passenger facility charges (PFCs).

State Funding

The UDOA administers state programs for funding airport planning, construction, and maintenance projects. The Division establishes the overall policy and procedures for the development and funding of capital improvements with the project prioritization system discussed previously. The primary source of funding utilized by the Division is generated by aviation fuel taxes and registration fees on aircraft based in Utah. The revenue generated from these taxes and fees are deposited into a restricted account from which funds are appropriated annually by the Utah Legislature. **Table 7-10** identifies the mount of total federal and state funds that have been utilized in Utah for airport improvements. Also shown is the portion of federal funds the have been allocated for improvements at the states GA airports. It should be noted that over half of the federal funds allocated to Utah were directed towards capital improvements at Salt Lake City International Airport. State funding has traditionally not been requested for improvements at Salt Lake City International Airport.

Table 7-10
Historical Aviation Funding In Utah

	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Total Federal Funds	$37,862,391	$24,742,227	$34,416,204	$35,543,028	$45,598,101
Federal Funds for GA Airports	$10,358,927	$10,867,035	$16,304,463	$19,875,855	$16,147,011
State Funds	$2,005,717	$3,122,996	$1,322,547	$2,497,490	$2,702,451
Total	**$39,858,108**	**$27,865,223**	**$35,738,851**	**$38,040,518**	**$48,300,552**

Source: UDOA, Wilbur Smith Associates, 2007

Local Funding

Local public airport sponsors such as counties, cities, and airport authorities are responsible for costs associated with airport development projects that remain after federal and state shares have been applied. Historically in Utah, the local share of federally funded projects has been 5 percent after the 95 percent federal share was applied. For state-only funded projects, the local share is typically 10 percent.

Local government funding for airport development projects is derived from the following sources:

- Local General Fund Revenues
- Bond Issues
- Airport-Generated Revenues
- Private Funding

Of these, general fund revenues and general obligation bonds are by far the most common funding sources. Revenue bonds supported by airport-generated revenues are seldom used because most general aviation airports do not earn enough money to pay operating expenses plus the debt service of capital funding requirements.

Private and Other Funding

Additional sources of revenue and assistance occasionally used at general aviation airports to fund or finance airport improvements are listed below. These funds are sometimes generated through public agencies in the form of donations, grants, leases, or other means such as:

- Private/Commercial Financing
- State rural/industrial bonds
- Residence lease/rental
- Bank loans
- Business license tax
- Sale of land for commercial purposes
- Display/advertisement rental

Money from private sources has traditionally been used to construct hangar facilities, terminal buildings, install pilot equipment, and in some instances, has supported costs associated with runway and taxiway maintenance and repair projects. Private financing is common at general aviation airports that serve diverse proprietary needs, or are beyond the financial resources of the airport sponsor.

FUNDING NEEDS

Over the next 20 years, the approximate annual average cost to raise the level of performance of airports throughout Utah excluding Salt Lake International would be at least $26.6 million. Historically, when federal, state, and local funding sources are all considered, each year an average of approximately $17 million has been invested in the Utah airport system, excluding Salt Lake International. This average annual amount is approximately $9.6 million below the average annual amount identified for airport maintenance and improvements. Based on historic funding levels, a total estimated funding shortfall over the next 20 years of $193 million could be expected.

The UCASP has identified costs that are needed to elevate the overall performance of Utah's aviation system and enable individual airports in the system to fulfill their assigned role in the aviation system. The importance of Utah's airports to the economies of the state, cities, and counties is undeniable. The system must be maintained and justifiably expanded not only to meet the needs of the aviation community but also the economic objectives of the state.

ADDITIONAL RECOMMENDATIONS/CONTINUOUS PLANNING

The final section of this report identifies steps for evaluating progress of the system and providing sustainable planning. The UDOA should plan to revisit the findings of the UCASP at regular intervals. Monitoring performance over time will identify gaps and assist in developing strategies to meet the ongoing needs of the aviation system. As the system is monitored, further refinement to airport categories, as assigned in this plan, may be warranted.

In their advisory circular on aviation system planning, the FAA recognizes the need for continuous planning as part of an effective system planning process. Continuous system planning is typically comprised of the following five elements:

- Surveillance
- Reappraisal
- Service and Coordination
- Special Studies
- Updates

These five continuous planning elements, as they relate to the UCASP, are discussed in the following subsections.

Surveillance

Aviation is a dynamic and fluid industry, one that is constantly changing. As aviation changes, the system of airports supporting aviation demand will also continue to change. As part of the continuous planning process, surveillance is recommended as it relates to the demand components and to the facilities/services of the airports.

As part of the UCASP, data on a number of factors for system airports have been assembled. These include statistics on the number of aircraft based at each airport in the system and total annual aircraft takeoffs and landings at each airport. As part of the continuous planning effort, the following actions should be considered:

Activity Indicators

- The UCASP contains data on total annual operations and based aircraft that have been assembled and documented to establish an informational database. For total annual operations, the Division has conducted “counts” using an acoustical counter system to estimate operational activity levels at each airport. During annual airport inspections conducted by the Division of Aeronautics, information on total based aircraft and annual operational levels should be updated. For consistency, collecting this updated information should occur at the same time each year.

- Follow-on activities for system airports on their specific operating fleets are also desirable. The future planning and development of all airports in the system is largely contingent on the specific types of aircraft operating at these airports. Ideally, the UDOA should work with and encourage system airports to keep an operational log, especially for transient (visitor) aircraft. Each airport's planning and development guidelines are determined by the most demanding/critical aircraft that operates at the airport on a regular basis. The FAA defines "regular basis" as being 500 total operations, or 250 landings and takeoffs per year. Each airport's airport reference code (ARC) is determined by its critical aircraft. Logs and photo journals on the types of aircraft operating at each airport and the frequency of their operations are important to establishing ARCs for all system airports. Therefore, this action is recommended as part of the continuous planning process.

Facilities/Services

- Airports within the Utah system will continue to develop between the completion of this update of the UCASP and the next update in five to seven years. System airports should be asked to provide the UDOA with a summary of major facility enhancements that are accomplished following the conclusion of this plan. Facilities that should be included in this reporting process include runways (new and extended), taxiway improvements (in particular how they relate to new, upgraded, or lengthened parallel taxiways), airfield lighting and approach aids, weather reporting facilities, and aircraft hangars.

Specific service-related guidelines were also established in the UCASP, including provision of fuel and terminal or pilot facilities. Funding of airport service-related items at system airports including fixed base operators (FBOs), hangars, fueling facilities, terminal or pilots lounges, restrooms, and ground transportation is often difficult. These projects typically receive a lower priority or are not eligible for state and/or FAA funding. However, providing these services is essential for most airports to attract and retain both local and transient users, thereby allowing the airport to become financially self-sufficient. The cost of providing many of these service-related items is relatively low when compared to other airport development costs and can provide a high return on investment. Providing these services greatly increases the utility of an airport which typically increases an airports level of activity. Should the usage of general aviation business aircraft including very light jets (VLJ's) continue to increase as projected, airports in Utah should be prepared to provide the facilities and services these airport users will require for airport usage.

The UCASP has been accomplished using a performance-based approach to evaluate the state's airport system. The major output of this approach is a system "report card" identifying deficiencies within the airport system. This report card provides sustainability to the planning process. As part of the continuous planning effort, the system report card can be updated if UDOA is able to refresh system data and information.

Reappraisal

Airports in the system will continue to grow, and as they grow, conclusions drawn as part of this plan may need to be reevaluated. As part of its follow-on activities, UDOA should contact system airports at least annually to determine any changes or potential changes to each airport's ability to meet identified facility and service objectives.

Service and Coordination

As part of the continuous planning process, there are appropriate follow-on coordination and communication activities. Some of these activities are between UDOA and the system airports; some are between UDOA and the FAA; while others are between the airports and UDOA/FAA. Continuous planning efforts may be summarized as follows:

- **Implementation Priorities** – As system airports proceed with their individual development and planning, consideration should be given to projects needed to move the system toward target objectives established in the UCASP. Particular emphasis should be placed on projects needed to meet the performance measures.

- **Security Issues** – It is recommended that UDOA continue the process of encouraging system airports to take appropriate security measures. The Transportation Security Administration (TSA) continues to examine and establish new security guidelines and requirements for the nation's commercial service and general aviation airports. As these security measures are formulated, follow-on efforts to ensure that the system airports are in compliance with both state and federal security guidelines may be required.

- **Compatible Land Use** – It is recommended that UDOA continue to emphasize compatible land uses and protective zoning around airports. In an effort to protect the investment that has been made in the state airport system, it is recommended that the Division consider upgrading those airports with protective zoning in place. Facilities at airports without protective zoning should be considered for maintenance only until such time that protective zoning can be implemented to ensure the long-term viability of the state and federal investment in airport facilities.

- **Airspace Issues** – Airspace along the Wasatch Front is impacted by limited radar coverage due to mountainous terrain and growing air traffic. The area stretching from Brigham City in the north to Spanish Fork in the south is densely populated and includes the busiest airports in the state: Salt Lake City International, Hill AFB, Provo Municipal, Ogden-Hinckley and Salt Lake City #2. The airspace in this region is used by a wide variety of aircraft ranging from gliders and helicopters to large commercial aircraft and high-speed military jet fighters. Coordination between air traffic control facilities using the airspace will be increasingly important as air traffic continues to grow.

Controlling facilities include:

Federal Aviation Administration (FAA):
Salt Lake International Airport Air Traffic Control Tower.
Salt Lake Terminal Radar Approach Control.
Salt Lake Center.
Ogden-Hinckley Airport Air Traffic Control Tower.
Provo Municipal Airport Air Traffic Control Tower.

Military:
Hill Air Force Base Air Traffic Control Tower.
Clover Range Control.

The terminal airspace around Salt Lake City is primarily served by a single radar unit located at the Salt Lake City International Airport. The design of Northern Utah's airspace is based upon the limited coverage of this unit as mountainous terrain blocks much of the radar's signal resulting in large areas of airspace that Air Traffic Control is "blind" to. The largest blind spot identified by the FAA is primarily over the Utah Valley area.

The FAA is currently in the process of redesigning the national airspace system, employing new satellite based technology (ADS-B) and developing procedures to allow the national airspace system to function more efficiently. Mountainous terrain does not affect the service area of ADS-B but its implementation isn't expected for at least fifteen years. Until then, it's recommended that the State of Utah and airport sponsors within the Salt Lake City terminal airspace area work closely with the FAA to implement available technology and procedures to improve the safety, capacity and utilization of the airspace in the region, especially over the Utah Valley area.

Updates

As part of the continuous planning process, two types of updates are appropriate. These are updates to individual airport master plans and airport layout plans, and an update to the UCASP.

- **Master Plans and Airport Layout Plans** – It is desirable for all airports to have current master plans and airport layout plans. It is recommended that each of the airports in Utah update their master plans or airport layout plans every 10 years, or as conditions warrant.

- **Utah Continuous Airport System Plan** – The system plan provides UDOA with a blueprint for the development of the airport system. As the aviation industry changes and the state's socio-economic and demographic characteristics evolve, the system plan should again be updated. It is recommended that UDOA consider updating the system plan in 10-year intervals with the next update in the 2017-2018 timeframe.

SUMMARY

Airports in Utah are critical transportation and economic resources. For communities throughout Utah, airports are important economic catalysts that, combined with other factors, can make the difference between a community experiencing growth or decline. By responding to performance measures and facility/service objectives outlined in this update to the UCASP, Utah will have a plan that will help guide the state airport system through the next 20 years.

Appendix A: Airport Pavement Management System Review

The Utah Division of Aeronautics (UDOA) has undertaken pavement management activities for many years. Through these efforts, UDOA has compiled valuable information related to its airport pavement infrastructure. As part of the Utah Continuous Airport System Plan (UCASP), the consultant team reviewed UDOA's existing procedures and policies regarding airport pavement evaluation and pavement management. The results of this review were used to formulate recommendations included in this Chapter for continued development of UDOA's pavement management program.

This review of UDOA's airport pavement management system is organized as follows:

- Data Collection Methods
- Overview of UDOA's Airport Pavement Management System (APMS)
- Airport Inventory
- Airport Pavement Evaluation
- Micro PAVER Database Set-Up
- Pavement Analysis, Reporting, and Outreach
- Pavement Performance Goals
- Comparison of UDOA's APMS Practices With Other State Aviation Agencies
- Recommendations for Changes and Additions to UDOA's APMS Activities

DATA COLLECTION METHODS

On December 4, 2006, Applied Pavement Technology, Inc. (APTech) and Wilbur Smith Associates (WSA) conducted an interview with UDOA staff. The purpose of this interview was to obtain background information on UDOA's current pavement management practices.

The interview results were supplemented by data gathered by WSA during the inventory process of the UCASP. Publications were consulted that describe the current state of the practice for airport pavement management at the state level throughout the United States. In addition, UDOA provided a copy of their current Micro PAVER pavement management system database, which was used to document the version of the software being used by UDOA and to determine UDOA's customization of the software (unit costs, performance models, and maintenance policies).

OVERVIEW OF UDOA's APMS

UDOA's original APMS activities date back to 1987. At that time, UDOA evaluated three airports and used the information collected to establish its initial pavement management database. By 2000, UDOA had expanded the database to include its current level of 43 airports. These airports included all of the airports that are in the

UCASP 2007 Study except Salt Lake City International, Salt Lake City Municipal #2, Tooele Valley, and the Jake Garn Airport.

Initially, UDOA used the dTIMS pavement management software developed by Deighton Associates Limited. This is proprietary software that was developed for road pavement management applications. It has been used by the Utah Department of Transportation for the management of its road network for over 20 years. UDOA is the only known state aviation agency that has used dTIMS for airport pavement management.

In 2001, UDOA converted its APMS to the Micro PAVER pavement management system. Micro PAVER is software developed and maintained by the United States Construction Engineering Research Laboratory (USA-CERL). Micro PAVER is supported primarily through funding from the Federal Aviation Administration (FAA) and various branches of the United States military. The conversion of the dTIMS database to Micro PAVER provided several benefits to the UDOA, including a significant reduction in the cost for the pavement management software, the elimination of dependency on a single consultant for software support, and a large user's group of state aviation agencies using the software for the same purpose as UDOA.

UDOA has undertaken all of its pavement management activities – from data collection to data analysis to report generation – using internal staff. One person on staff is responsible for all aspects of the APMS, and this person works with the software almost continuously and conducts all of the pavement evaluations. Outside consultants have not been retained to assist. Funding for the APMS activities comes from UDOA's state budget and FAA funding.

The information contained in the APMS and the analysis outputs are primarily used by the FAA, UDOA, and the Utah Transportation Commission. In addition, individual airports and consultants occasionally use outputs from the APMS.

The information in the APMS is used in a variety of ways, including:

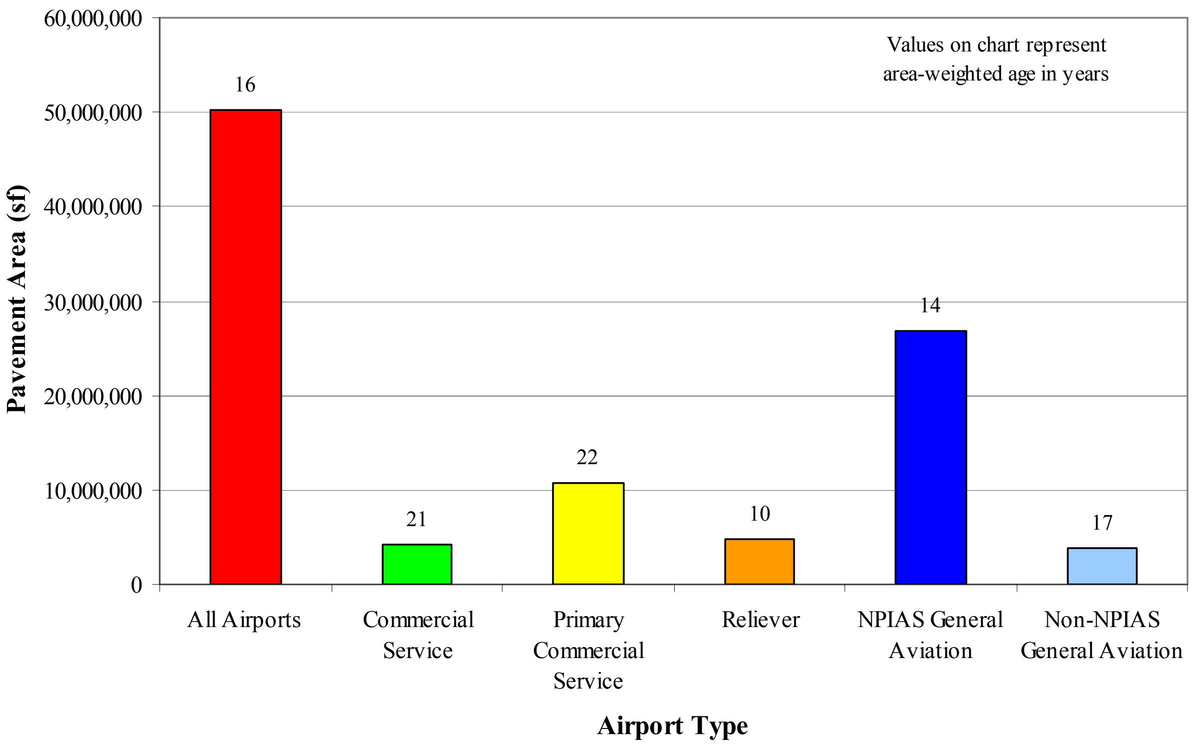
- Tracking current condition
- Predicting future condition under different funding scenarios
- Identifying pavement-related needs
- Making pavement-related funding decisions
- Prioritizing the funding of pavement-related projects
- Feeding information into the state geographic information system (GIS)

UDOA performs some of the analysis of the pavement data using Micro PAVER and some external to that software.

AIRPORT INVENTORY

Exhibit A-1, below, shows the extent of pavement area in the UDOA Micro PAVER database compared to the airport type, and **Table A-1** lists the 43 airports that are currently in the database. Three are classified as primary commercial service airports, three are commercial service airports, one is a reliever airport, and the remaining 36 are general aviation airports. All airside pavements except taxilanes are included in the database. These pavements comprise approximately 50 million square feet of pavement. **Exhibits A-1** and **A-2** show the distribution of pavement area by pavement use (runway, taxiway, and apron) and by airport classification, respectively.

Exhibit A-1
Pavement Area Versus Airport Classification



Source: Applied Pavement Technology Inc, UDOA, 2006

Table A-1
Airports in UDOA's APMS

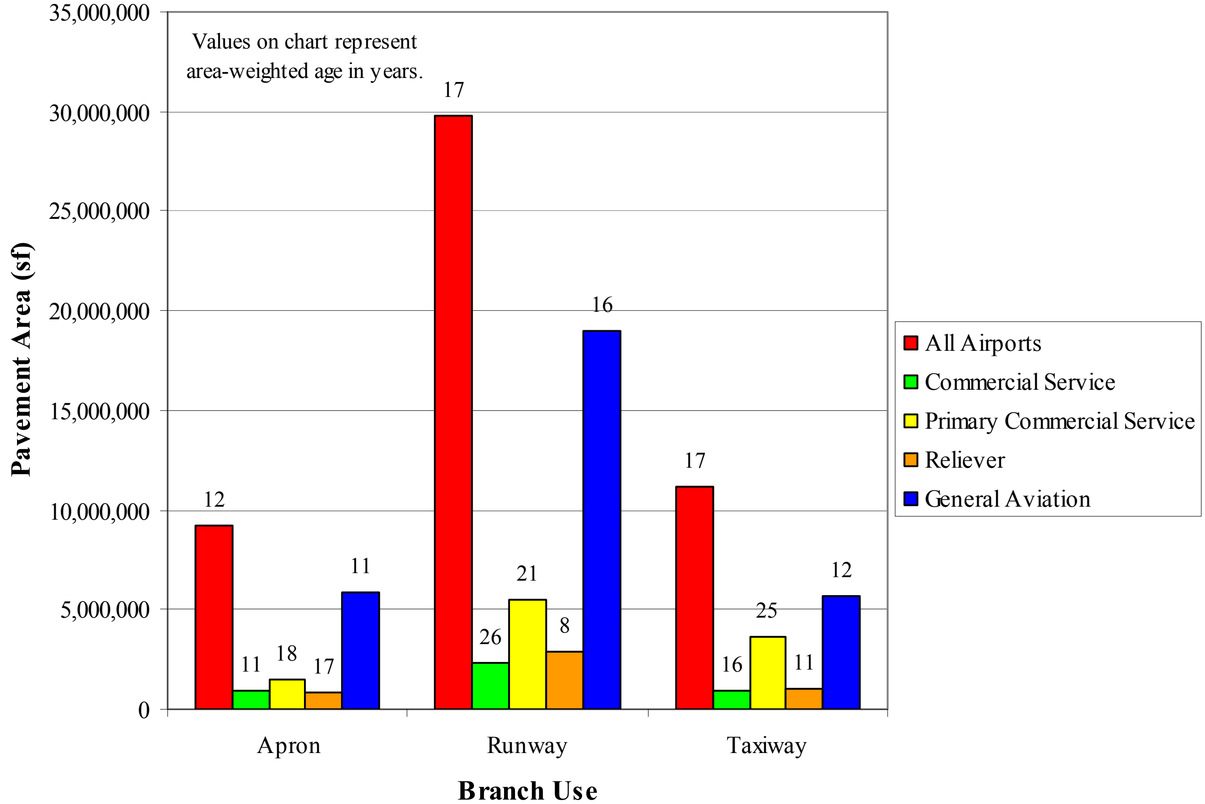
Airport Name	Associated City	Classification	NPIAS	First PCI Inspection[1]	Most Recent PCI Inspection[1]
Beaver Municipal	Beaver	General Aviation	NPIAS	1989	2006
Blanding Municipal	Blanding	General Aviation	NPIAS	1991	2006
Bluff	Bluff	General Aviation	Non-NPIAS	2000	2005
Brigham City	Brigham City	General Aviation	NPIAS	1988	2006
Bryce Canyon	Bryce Canyon	Commercial Service	NPIAS	1987	2005
Bullfrog Basin	Glen Canyon National Recreation Area	General Aviation	Non-NPIAS	1990	2006
Cal Black Memorial	Halls Crossing	General Aviation	NPIAS	1994	2006
Canyonlands Field	Moab	Commercial Service	NPIAS	1989	2006
Carbon County	Price	General Aviation	NPIAS	1988	2005
Cedar City Regional	Cedar City	Primary Commercial Service	NPIAS	1989	2006
Delta Municipal	Delta	General Aviation	NPIAS	1989	2006
Duchesne Municipal	Duchesne	General Aviation	NPIAS	1989	2005
Dutch John	Dutch John	General Aviation	Non-NPIAS	1997	2005
Escalante Municipal	Escalante	General Aviation	NPIAS	1989	2005
Fillmore Municipal	Fillmore	General Aviation	Non-NPIAS	1991	2005
Green River Municipal	Green River	General Aviation	NPIAS	1988	2005
Hanksville	Hanksville	General Aviation	NPIAS	1989	2005
Heber City Municipal	Heber	General Aviation	NPIAS	1991	2005
Huntington Municipal	Huntington	General Aviation	Non-NPIAS	1990	2005
Hurricane	Hurricane	General Aviation	Non-NPIAS	1990	2005
Junction	Junction	General Aviation	Non-NPIAS	1994	2006
Kanab Municipal	Kanab	General Aviation	NPIAS	1988	2004
Logan-Cache	Logan	General Aviation	NPIAS	1990	2006

Table A-1
Airports in UDOA's APMS

Airport Name	Associated City	Classification	NPIAS	First PCI Inspection[1]	Most Recent PCI Inspection[1]
Manila	Manila	General Aviation	Non-NPIAS	1989	2005
Manti-Ephraim	Manti	General Aviation	NPIAS	1990	2005
Milford Municipal	Milford	General Aviation	NPIAS	1990	2005
Monticello	Monticello	General Aviation	NPIAS	1990	2006
Morgan County	Morgan	General Aviation	Non-NPIAS	1989	2006
Mount Pleasant	Mount Pleasant	General Aviation	Non-NPIAS	1989	2005
Nephi Municipal	Nephi	General Aviation	NPIAS	1987	1998
Ogden-Hinckley Municipal	Ogden	Reliever	NPIAS	1990	2004
Panguitch Municipal	Panguitch	General Aviation	NPIAS	1990	2005
Parowan	Parowan	General Aviation	NPIAS	1990	2006
Provo Municipal	Provo	General Aviation	NPIAS	1988	2006
Richfield Municipal	Richfield	General Aviation	NPIAS	1990	2005
Roosevelt Municipal	Roosevelt	General Aviation	NPIAS	1987	2005
Salina-Gunnison	Salina	General Aviation	Non-NPIAS	1991	2005
Skypark	Bountiful	General Aviation	Non-NPIAS	1988	2005
Spanish Fork-Springville	Spanish Fork	General Aviation	NPIAS	1990	2005
St. George Municipal	St. George	Primary Commercial Service	NPIAS	1988	2006
Vernal	Vernal	Commercial Service	NPIAS	1999	2006
Wayne Wonderland	Loa	General Aviation	NPIAS	1990	2006
Wendover	Wendover	Primary Commercial Service	NPIAS	2000	2005

[1]Based on the runway inspection dates.
[2]Nephi Muni: The pavement sections at this airport have construction data entered in years 2004 and 2005 and no inspections appear to have been performed since 1998. This was due to the impending reconstruction of the airport.
Source: Applied Pavement Technology Inc, UDOA, 2006

Exhibit A-2
Pavement Area Versus Use



Source: Applied Pavement Technology Inc, UDOA, 2006

UDOA estimates that approximately 70 percent of pavement work history for the 43 airports in the UDOA APMS has been retained. Since this work history dates back to the original construction of the pavements, this is a very good percentage. It appears that most, if not all, the pavement-related work conducted since 2001 has been captured in the database.

AIRPORT PAVEMENT EVALUATION

UDOA evaluates the condition of the airport pavements using the Pavement Condition Index (PCI) methodology. The PCI procedure is the standard used by the aviation industry to visually assess pavement condition. It was developed to provide a consistent, objective, and repeatable tool to represent the overall pavement condition. This methodology involves walking over the pavement, identifying the type and severity of distress present, and measuring the quantity of distress.

The PCI scale ranges from a value of 0 (representing a pavement in a failed condition) to a value of 100 (representing a pavement in excellent condition). In general terms, pavements above a PCI of 70 that are not exhibiting significant load-related distress will benefit from preventive maintenance actions, such as crack sealing and surface treatments. Pavements with a PCI of 40 to 70 may require major rehabilitation, such as an overlay. Often, when the PCI is less than 40, reconstruction is the only viable alternative due to the substantial damage to the pavement structure. It should be noted that a PCI value is based on visual signs of pavement deterioration and does not provide a measure of structural integrity or capacity.

The PCI procedure is documented in the following publications:

- The U.S. FAA Advisory Circular (AC) 150/5380-6A, *Guidelines and Procedures for Maintenance of Airport Pavements* (2005).
- The American Society for Testing and Material (ASTM) Standard D5340-04e1, *Standard Test Method for Airport Pavement Condition Index Surveys*.

Through discussions, it was determined that UDOA has been performing pavement inspections in accordance with FAA AC 150/5380-6, which is an obsolete version of 150/5380-6A. FAA AC 150/5380-6 was published in 1982 and was replaced in 2003 by 150/5380-6A. Rather than providing instructions on the PCI procedure, this revised circular refers the user directly to ASTM Standard D5340. UDOA now has a copy of 150/5380-6A. However, UDOA does not have a copy of the ASTM Standard D5340, which is needed to effectively use 150/5380-6A.

A single staff member of UDOA conducts the PCI inspections. He was trained by his predecessor in the procedure according to FAA AC 150/5380-6 approximately five years ago and has not had any subsequent training.

Like all other states with APMS, UDOA does not inspect 100 percent of the pavement area. Rather, UDOA inspects a portion of the pavement area to be evaluated. Once the number of sample units that need to be inspected has been determined a random number generator is used to select which sample units to inspect. This is a variation from AC150/5380-6A which recommends stratified, or systematic, random sampling.

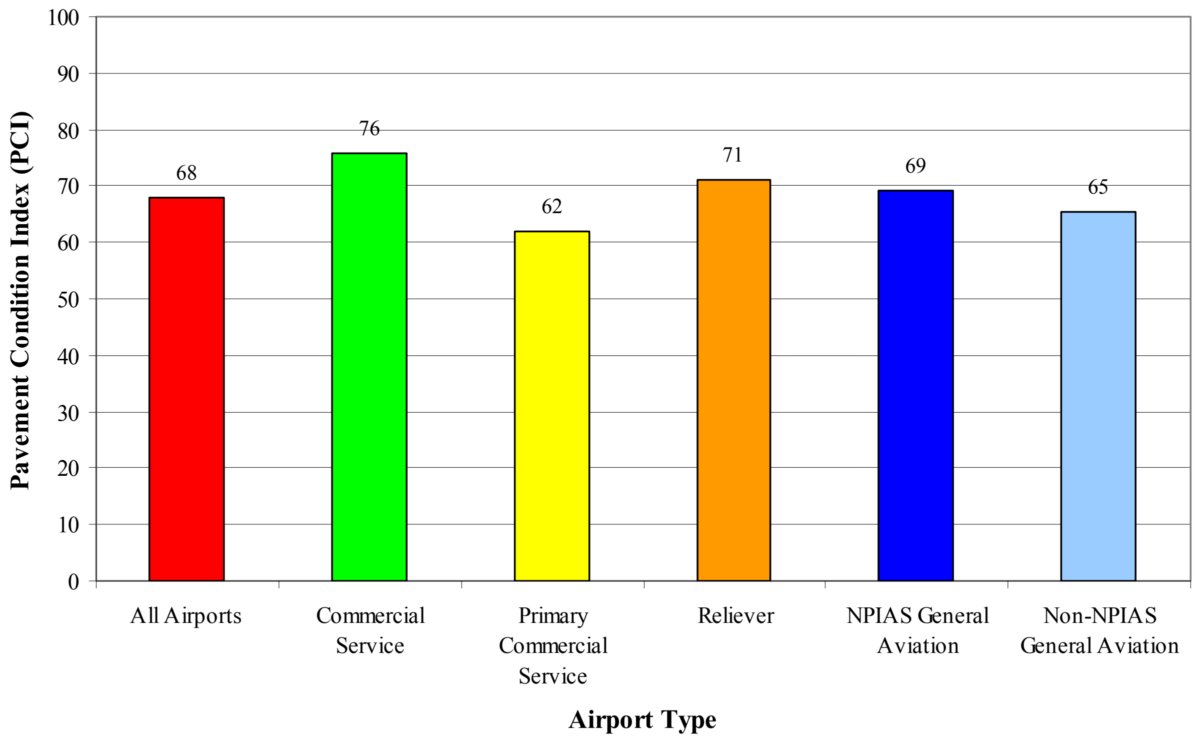
UDOA does not employ formal quality control procedures during its PCI inspections other than re-inspecting a constant control sample unit during each inspection. Since the same individual conducts all the inspections and has 5 years of experience, this increases the consistency in inspections over time. However, the lack of training on current inspection standards does not ensure that the distresses are being identified and severity levels determined in accordance with ASTM D5340-04e1.

The initial goal of UDOA was to inspect each airport on a two year cycle; but staffing constraints have resulted in an actual inspection cycle closer to 2 ½ years.

No other types of pavement evaluation – such as structural evaluation or coring/materials testing – are performed as part of UDOA's APMS process. However, UDOA does evaluate the condition of the paint markings on the pavement and enters

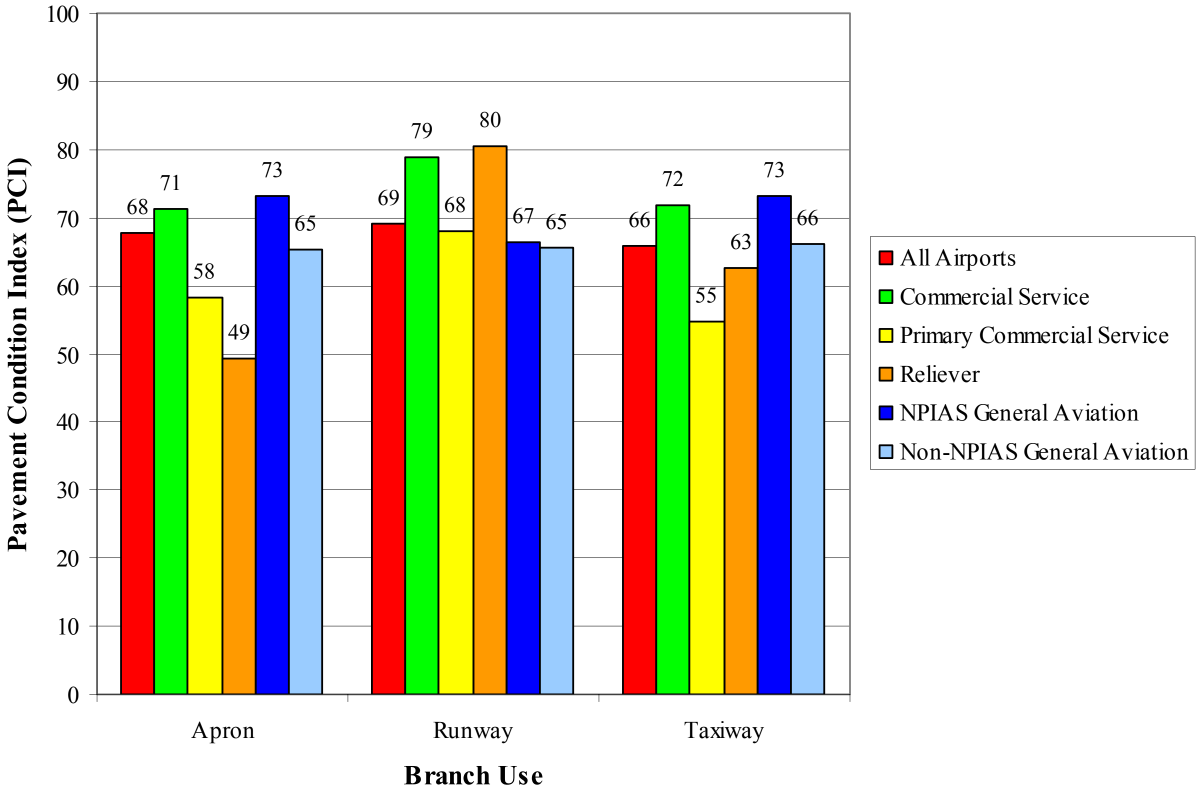
that into the database. UDOA also observes drainage conditions during the PCI inspections, although no formal measurements of drainage factors are collected.
Using the Micro PAVER database provided by UDOA, the overall pavement conditions at the time of last inspection were calculated. Overall, the pavement system has an area-weighted PCI value of 68. **Exhibits 3** and **4** summarize the area-weighted condition of the UDOA pavement system by airport classification and pavement use. Please recall that the following airports are not included in these statistics: Salt Lake City International, Salt Lake City Municipal #2, Tooele Valley, and Jake Garn Airports.

Exhibit A-3
Area-weighted Pavement Condition Versus Airport Classification



Source: Applied Pavement Technology Inc, UDOA, 2006

Exhibit A-4
Area-weighted Pavement Condition Versus Use



Source: Applied Pavement Technology Inc, UDOA, 2006

Micro PAVER DATABASE AND SOFTWARE SET-UP

At the time of the interview, UDOA was using version 5.1 of Micro PAVER, obtained from the FAA. This is an old version of the software that was replaced several years ago; it did not calculate PCI values in accordance with the latest version of FAA AC 150/5380-6A or ASTM D5340. In December 2006, UDOA obtained version 5.3 of Micro PAVER.

The UDOA staff member responsible for updating the database and analyzing data was self-trained on the use of Micro PAVER. The quality control process employed by UDOA consists of the data being entered, printed, and then hand-checked against the original data sheets. The same person that enters the data performs the quality control.

There are several features of Micro PAVER that should be customized to make it a more useful tool for decision-making by UDOA. The major customization features are as follows:

- A Micro PAVER database has many user-defined fields at the network (individual airport) level, branch (runway, taxiway, or apron) level, and section (portions of a branch with common characteristics such as age, surface type, and condition) level. UDOA has made use of a few of these to store information, such as whether an airport is in the NPIAS and the condition of the paint during the last inspection.

- Micro PAVER is much more useful and provides more realistic analysis outputs when it is customized to include an agency's actual maintenance policies and localized costs. This can include a standard repair action for common distresses and unit costs for specific materials used for pavement maintenance and rehabilitation. During updates of the software UDOA has lost customization information; therefore, it currently modifies the default tables that come with Micro PAVER rather than storing the information in separate tables.

- Pavement performance models – used to predict future conditions – should be developed using historic pavement condition data. At the state level, these models are typically defined by: (1) pavement surface type - original asphalt cement concrete (AC), Portland cement concrete (PCC), asphalt overlay on AC (ACC), or asphalt overlay on PCC (APC); (2) pavement use - runway, taxiway, and apron, and (3) airport classification/traffic level, and geographic location or elevation. UDOA has three performance models – one for runways, one for taxiways, and one for aprons.

A very important part of the customization of the Micro PAVER software is the establishment of a critical PCI value. This value is set for each pavement performance model using the performance modeling tool. In general, when performing an analysis with the Micro PAVER software, pavements predicted to have a PCI value below the critical PCI value set by the user are triggered for major rehabilitation; those above the critical PCI value are triggered for preventive maintenance (localized and global). In discussions with UDOA during the interview, it was stated that the desired critical PCI levels are a PCI of 50 for aprons, 55 for taxiways, and 60 for runways. These values must be established both in the Minimum Conditions Table of Micro PAVER as well as specifically identified in the performance models themselves.

PAVEMENT ANALYSIS, REPORTING, AND OUTREACH

UDOA runs an initial analysis of pavement needs with Micro PAVER and feeds that information into an Excel spreadsheet which is used to prioritize pavement projects. This information is then sent to the UDOA Airport Planner for use in developing pavement maintenance and rehabilitation programs. UDOA does investigate different funding levels and reports on those to agencies such as the Transportation Commission; however, different budget tables were not contained in UDOA's Micro PAVER set-up at the time of the interview. It is assumed that the different budget scenarios are investigated outside of the Micro PAVER software.

Currently, UDOA's external reporting of APMS is very limited. Reports are not routinely provided to the airports that are evaluated. The inspection data is provided to individual airports or airport consultants upon request. APMS information is not currently available via UDOA's website; however, UDOA plans to incorporate this feature in the future.

In 2003 UDOA conducted a presentation on pavement management and pavement preservation at the Utah Airport Owners and Operators (UAOA) Association meeting. UDOA has not recently conducted outreach pertaining to its pavement management activities.

PAVEMENT PERFORMANCE STANDARDS

Pavement performance standards are goals set by an agency regarding desired pavement condition. They are often established at different levels for different groups of pavements – for example, a higher condition level is usually set for primary runways than is for aprons. At this time UDOA has set its pavement performance standards the same as its critical PCI values – 60 for runways, 55 for taxiways, and 50 for aprons.

COMPARISON OF UDOA'S APMS PRACTICES WITH OTHER STATE AVIATION AGENCIES

As part of this project, UDOA's APMS practices were benchmarked with other state aviation agencies' practices. The benchmarking was based on a paper published at the 6th International Conference of Managing Pavements.[1] The information in this paper was updated with current information where available.

Number of Agencies with APMS and Software Used

Most state aviation agencies (88 percent) have APMS programs in place. Of these, 80 percent use the Micro PAVER software. Other software options used include proprietary software products (DSS and AIRPAV) and a software system developed by a university. One very small state does not use software. Utah and all the other states in the FAA Northwest Mountain Region all use the Micro PAVER software.

Method to Conduct APMS and Funding of APMS Activities

<u>Method of Implementation</u>

The majority (89 percent) of agencies with an APMS conduct their APMS activities using consultants or using a combination of internal staff and consultants. Only four states (Utah, Alaska, Minnesota, and North Carolina) conduct APMS activities using only internal staff. Nebraska also conducts almost all its APMS activities in house;

[1] [1]Covalt, M., C. Comer, and A. Muntasir, State Airport Pavement Management Practices and the Impact on Pavement Condition, 6th International Conference on Managing Pavements Proceedings, Australia, 2004.

however, it does receive assistance from consultants on software use and training. One state out of the 44 with active APMS uses a university to conduct its APMS activities.

The majority of states with APMS (approximately 82 percent) use FAA funding for at least a portion of their APMS work. Most states in the FAA Northwest Mountain Region use federal funding for their APMS activities. Further information on this funding follows:

- Colorado actively participates in the APMS process by assisting in the PCI inspections and by gathering the work history information. Colorado receives 90 percent funding for its APMS work at NPIAS airports from the FAA and funds the additional 10 percent for the NPIAS airports plus 100 percent for non NPIAS airports using Aviation funds (information provided by T.K Gwin of Colorado Division of Aeronautics). Denver International is excluded from the State's APMS activities.
- Washington receives between 90 percent and 95 percent funding for its APMS activities from the FAA for AIP eligible pavements at NPIAS airports and funds the remaining work at NPIAS airports and 100 percent at non NPIAS airports using state funds (information provided by Eric Johnson, Washington State Aeronautics). Seattle-Tacoma International, Spokane International, Tri-Cities Airport, and Bellingham International Airport are excluded from the State's APMS activities.
- Oregon and Idaho both fund APMS work for its general aviation airports through the AIP funded State System Plans; APMS work at the primary airports in these states is funded through AIP pavement grants paid directly to the individual airports (information provided by Bill Watson, FAA).
- Wyoming generates its own multi-year maintenance and rehabilitation plans. Wyoming receives federal funding for 50 percent of its APMS activities at NPIAS airports and funds the remaining activities at the NPIAS activities and all of the activities at the non NPIAS airports using state funds (information provided by Cheryl Bean, Wyoming Division of Aeronautics).
- PCI studies in Montana are funded with State System Plan funds on a 3-year cycle (information provided by Dave Spelling, FAA).
- UDOA's APMS for NPIAS airports is funded at the 95 percent level through FAA State System Plan funds (information provided by Kirk Nielsen, UDOA).

Although federal funding is available for state APMS activities, some states have not take advantage of this funding for the following reasons:

- Federal funds were not available when a state requested funding for APMS.
- The APMS had a low priority rating overall when compared to other projects being considered for federal funding so funding for it would have been delayed beyond the point deemed acceptable by the state.
- State staffing and resources were available to permit assignment of state staff to APMS work for the majority of their time.

- The state did not have the necessary match to receive federal funds.
- The state had sufficient resources, so federal funds were not needed. In some cases, states initiated their APMS programs using State funds but have transitioned over time to using federal funds.

Pavement Inspection Cycle

Public Law 103-305 states that if a NPIAS airport is conducting a PCI evaluation as part of pavement management activities a 3-year inspection cycle is sufficient. The majority of states have adhered to this 3-year cycle; however, a few of the states have lengthened or shortened this cycle. For those on the 3-year cycle, some states choose to inspect approximately one third of the airports each year and others inspect all the airports in one year and then essentially let the APMS go “dormant” for two years before starting the cycle again.

UDOA inspects its airports every two to three years. Wyoming, Colorado, Montana, Oregon, and Idaho inspect approximately one-third of their airports each year. Washington inspects all their airports in a given year; however, they had a 5 year gap between their initial implementation in 2001 and their 2006 update to their APMS. In the future they hope to return to the 3-year cycle.

Users of APMS Information

Who uses APMS information? Almost all of the states with APMS identify the most prevalent user of pavement management data besides their own agency is the FAA. The large majority of states report that individual airports and engineering consultants are primary users of their pavement management data. A few states relate that airlines and Regional Planning Organizations are additional users of the APMS information.

UDOA reports that the information contained in the UDOA APMS and the analysis outputs are primarily used by the FAA, UDOA, and the Utah Transportation Commission. In addition, individual airports and consultants occasionally use outputs from the APMS. All the states in the FAA Northwest Mountain Region also report that their own agency and the FAA are the two heaviest users of the APMS information. The individual airports are also common users of the information in Colorado, Washington, and Oregon.

Uses of the APMS Information

The APMS information is used by states in a variety of ways. All states with an APMS use it to monitor the overall condition of the state’s pavement network. They use the data not only to monitor conditions of the airport infrastructure for internal purposes but also to report their findings to the individual airports and to the FAA. The FAA then may use that information to prioritize federally-funded work as well as in programming FAA state apportionment funds. In several cases, state aviation agencies are rated on the overall condition of the airport system and have performance objectives relative to the overall PCI of their pavement system. The APMS provides the data needed to perform this evaluation.

For the majority of states, the APMS plays an important role in planning for the preservation of the pavement infrastructure through the timely maintenance and rehabilitation of that system. The majority of the states use the APMS data to provide guidance to the individual airports on the type of maintenance and rehabilitation they should conduct. A significant number of the states that have APMS (over 35 percent) have state-run pavement maintenance programs. These states all use their APMS data to provide input into their pavement maintenance programs. In the FAA Northwest Mountain Region, Wyoming, Montana, and Oregon use their APMS data to help run their state-run maintenance programs and Colorado has done so in the past.

A trend in recent years has been to use APMS data to document pavement-related needs and to lobby for funding for pavement preservation. Currently, over half of the states use their APMS to support these efforts. In the FAA Northwest Mountain Region, Washington uses APMS information to directly lobby the Legislature for increased funding levels, and Utah has done so in the past. No other states in the region are known to have made similar lobbying efforts.

The APMS is also used by individual airports to meet a substantial portion of the requirements of Public Law 103-305. Simply stated, Public Law 103-305 requires a NPIAS airport to have an "effective pavement maintenance management system" in place if they are to be eligible to receive federal funding for pavement reconstruction or rehabilitation. Basically, if the state has an up-to-date APMS then the only additional items that the individual airports have to complete to remain in compliance with the law are conducting monthly drive-by inspections and tracking maintenance that is needed and conducted at the airports.

Distribution of APMS Information

Over 80 percent of states with APMS print and distribute hard copy reports to the individual airports within the state. Interactive pavement management CDs and web-access are used to a much lesser extent. Many states also conduct presentations on airport pavement management topics at state aviation conferences.

UDOA does not distribute APMS information to individual airports or consultants unless they receive a specific request. The other states in the FAA Northwest Mountain region do distribute individual airport APMS reports. Washington State went one step further and conducted a series of outreach meetings throughout the state to educate the airports on airport pavement management and the cost savings of effective preventive maintenance.

Pavement Performance Goals

A few states in the FAA Northwest Mountain region have set overall goals for the condition of airport pavements. In Washington, the goal is an area-weighted PCI of 78 for all pavements (Washington State Department of Transportation Gray Notebook 2006). In Colorado, the goal is that every primary runway has an area-weighted PCI of 75 or higher (2005 Systems Plan). In Oregon, the goal is that 90 percent of the runways are in good or better condition (it is unknown what defines good and better; information obtained from Oregon Division of Aeronautics website).

RECOMMENDATIONS FOR CHANGES AND ADDITIONS TO UDOA's APMS ACTIVITIES

Based on a review of UDOA's current pavement management practices and comparing practices to other states, particularly those in the FAA Northwest Mountain Region, the following recommendations are made for UDOA's consideration.

Micro PAVER Set-Up

<u>Version of Micro PAVER</u>

At the time of the interview UDOA was using an outdated version of Micro PAVER and it was recommended that they obtain the current version of the software. In December 2006 UDOA upgraded its software to version 5.3 and converted its database to work with that version. It is recommended that UDOA maintain an annual subscription to the software which will allow it to obtain new versions as they are released.

<u>Unit costs</u>

At the time of the interview a review of UDOA's Micro PAVER setup showed that Utah-specific costs have been entered for global maintenance activities (thin overlays, surface treatments, etc.) but it appeared that Utah-specific costs have not been entered for localized maintenance activities (crack sealing, patching, etc.) or major rehabilitation by PCI range. Since the interview UDOA has entered these Utah-specific costs which will enable the program to generate more realistic maintenance and rehabilitation costs. It is recommended that UDOA review and update these costs on an annual or semi-annual basis.

<u>Critical PCI values</u>

Critical PCI values are established to determine whether maintenance or major rehabilitation should be triggered by Micro PAVER. During the interview UDOA expressed a desire to use Washington State's critical PCI values, which are presented in **Table A-2**.

Table A-2
Washington State Critical PCI Values

Surface Type	Load Classification	Critical PCI Values		
		Runway	Taxiway	Apron
Asphalt Cement Concrete Surface	< 60,000#	65	60	60
	≥ 60,000#	70	65	60
Portland Cement Concrete	< 60,000#	55	50	50
	≥ 60,000#	60	55	50

Source: Applied Pavement Technology Inc, UDOA, 2006

Currently, UDOA does not have the data in the Micro PAVER system to allow it to incorporate classification; however, the agency is working on including that information. In addition, while the Washington State values are an excellent goal budgetary constraints may require that UDOA reduce these values.

Maintenance policies

UDOA is currently using the default airfield maintenance policies that come with Micro PAVER. These maintenance policies are adequate; however, the following two changes are recommended for the maintenance of PCC pavements:

- Localized preventive maintenance for PCC pavements: change repair type of high severity blow-up from patching to slab replacement.
- Localized preventive maintenance for PCC pavements: change high-severity linear cracking from crack sealing to slab replacement.

Performance models

UDOA has pavement condition data dating back to the 1980's for the use in generating performance models. At this time UDOA uses three models (one for runways, one for taxiways, and one for aprons) in Micro PAVER. These models could be further refined to take into account airport classification, pavement type (original asphalt, asphalt overlaid with asphalt, portland cement concrete, or portland cement concrete overlaid with asphalt), and geographic location at a minimum. UDOA feels that with its limited work history data it should concentrate on refining the models based on geography and classification. As the database is further refined it is highly recommended that UDOA also look at developing separate models for pavements that are original construction and those that have received one or more overlays. The performance of these pavements is often significantly different.

It is very likely the resulting models would not have as much scatter in the data set as the existing models and would be more reliable and statistically valid for making future pavement condition predictions.

Pavement Evaluation Practices

The current practice of a one-person crew conducting the PCI inspections is not desirable from a safety or from a quality control perspective. It is recommended that UDOA adopt a two-person crew. This might include one UDOA and one consultant. Colorado uses the latter approach very successfully, as has Iowa in the past.

Reporting to Airports

Currently UDOA does not prepare or distribute individual airport pavement reports, partially due to Micro PAVER's limited reporting capabilities. It is recommended that this activity be added to UDOA's APMS process. This would maximize the usefulness and benefit of the APMS work for the individual airports. The posting of pavement information to UDOA's website would also be beneficial, and UDOA reports that it is currently pursuing this.

Training – PCI and Micro PAVER

The UDOA staff member responsible for all the APMS activities – ranging from data collection to data entry to data analysis – was self-trained on the PCI procedure and Micro PAVER. It is recommended that UDOA receive training as soon as possible on the PCI procedure and on version 6 of Micro PAVER when it is released.

Update of the APMS

We do not recommend that the UDOA turn over all its activities to a consultant. UDOA has expressed a desire to be actively involved in these activities. However, the UDOA could benefit greatly from outside assistance with some activities – including PCI inspections, customization of Micro PAVER, generation of individual airport reports, and training on the PCI procedure and the Micro PAVER software. These are all activities that the FAA funds for other states in the Northwest Mountain Region.

Pavement Performance Goal

It is recommended that UDOA consider the following pavement performance goals:

- Overall area-weighted PCI of the pavement system has a PCI of 65 or greater.
- Each primary runway has area-weighted PCI of 70 or greater.
- Each secondary runway has an area-weighted PCI of 60 or greater.

UDOA's Micro PAVER CUSTOMIZATION

Table A-3
UDOA's current localized preventive maintenance policy for airfields, asphalt-surfaced pavements (Micro PAVER airfield default table)

Distress Type	Severity Level	Maintenance Action
Alligator Cracking	Medium	Patching - AC Deep
	High	Patching - AC Deep
Block Cracking	Medium	Crack Sealing - AC
	High	Crack Sealing - AC
Depression	Medium	Patching - AC Deep
	High	Patching - AC Deep
Joint Reflective Cracking	Medium	Crack Sealing - AC
	High	Crack Sealing - AC
Longitudinal and Transverse Cracking	Medium	Crack Sealing - AC
	High	Crack Sealing - AC
Oil Spillage	N/A	Patching - AC Shallow
Patching	Medium	Patching - AC Deep
	High	Patching - AC Deep
Rutting	Medium	Patching - AC Deep
	High	Patching - AC Deep
Shoving	Medium	Patching - AC Shallow
	High	Patching - AC Shallow
Slippage Cracking	N/A	Patching - AC Shallow
Swelling	Medium	Patching - AC Deep
	High	Patching - AC Deep

Source: Applied Pavement Technology Inc, UDOA, 2006

Table A-4
Localized preventive maintenance policy for airfields,
portland cement concrete pavements (Micro PAVER airfield default table)

Distress Type	Severity Level	Maintenance Action
Blow-Up	Low	Patching - PCC Full Depth
	Medium	Patching - PCC Full Depth
	High	Patching - PCC Full Depth
Corner Break	Medium	Patching - PCC Full Depth
	High	Patching - PCC Full Depth
Linear Cracking	Medium	Crack Sealing - PCC
	High	Crack Sealing - PCC
Durability Cracking	Medium	Patching - PCC Full Depth
	High	Slab Replacement - PCC
Small Patch	Medium	Patching - PCC Partial Depth
	High	Patching - PCC Partial Depth
Large Patch	Medium	Patching - PCC Full Depth
	High	Patching - PCC Full Depth
Scaling	Medium	Slab Replacement - PCC
	High	Slab Replacement - PCC
Faulting	Medium	Grinding (Localized)
	High	Grinding (Localized)
Shattered Slab	Medium	Slab Replacement - PCC
	High	Slab Replacement - PCC
Joint Spall	Medium	Patching - PCC Partial Depth
	High	Patching - PCC Partial Depth
Corner Spall	Medium	Patching - PCC Partial Depth
	High	Patching - PCC Partial Depth

Source: Applied Pavement Technology Inc, UDOA, 2006

Table A-5
Localized safety maintenance policy for airfields,
asphalt-surfaced pavements (Micro PAVER airfield default table)

Distress Type	Severity Level	Maintenance Action
Alligator Cracking	High	Patching - AC Deep
Block Cracking	High	Crack Sealing - AC
Depression	High	Patching - AC Deep
Joint Reflective Cracking	High	Crack Sealing - AC
Longitudinal and Transverse Cracking	High	Crack Sealing - AC
Patching	High	Patching - AC Deep
Rutting	High	Patching - AC Deep
Shoving	High	Patching - AC Shallow
Slippage Cracking	N/A	Patching - AC Shallow
Swelling	High	Patching - AC Deep

Source: Applied Pavement Technology Inc, UDOA, 2006

Table A-6
Localized safety maintenance policy for airfields,
portland cement concrete pavements (Micro PAVER airfield default table)

Distress Type	Severity Level	Maintenance Action
Blow-Up	Medium	Patching - PCC Full Depth
	High	Patching - PCC Full Depth
Corner Break	High	Patching - PCC Full Depth
Linear Cracking	High	Crack Sealing - PCC
Durability Cracking	High	Slab Replacement - PCC
Small Patch	High	Patching - PCC Partial Depth
Large Patch	High	Patching - PCC Full Depth
Scaling	High	Slab Replacement - PCC
Faulting	High	Grinding (Localized)
Shattered Slab	High	Slab Replacement - PCC
Joint Spall	High	Patching - PCC Partial Depth
Corner Spall	High	Patching - PCC Partial Depth

Source: Applied Pavement Technology Inc, UDOA, 2006

Table A-7
UDOA's unit costs for preventive maintenance actions
(Micro PAVER default table)

Maintenance Action	Unit Cost
Patching - AC Leveling	$1.00/sf
Patching - AC Shallow	$2.00/sf
Patching - PCC Full Depth	$14.99/sf
Patching - PCC Partial Depth	$21.99/sf
Slab Replacement - PCC	$9.50/sf
Crack Sealing - PCC	$0.60/lf
Undersealing - PCC	$1.00/lf
Crack Sealing - AC	$0.60/lf
Grinding (Localized)	$20.00/lf
Joint Seal (Localized)	$1.00/lf
Shoulder leveling	$1.00/lf
Joint Seal - Silicon	$2.00/lf
Break and Seat	$0.30/sf
Patching - AC Deep	$5.50/sf

Source: Applied Pavement Technology Inc, UDOA, 2006

Table A-8
UDOA's unit costs for global maintenance actions
(UDOA's "AERO" table in Micro PAVER)

Maintenance Action	Unit Cost
Overlay - AC Thin (Global)	$0.90/sf
Surface Seal - Coal Tar	$0.11/sf
Surface Seal - Fog Seal	$0.09/sf
Surface Seal - Rejuvenating	$0.19/sf
Surface Treatment - Single Bitum.	$0.80/sf
Surface Treatment - Slurry Seal	$0.26/sf
Surface Treatment - Sand Tar	$0.18/sf
No Global M & R	$0.00/sf

Source: Applied Pavement Technology Inc, UDOA, 2006

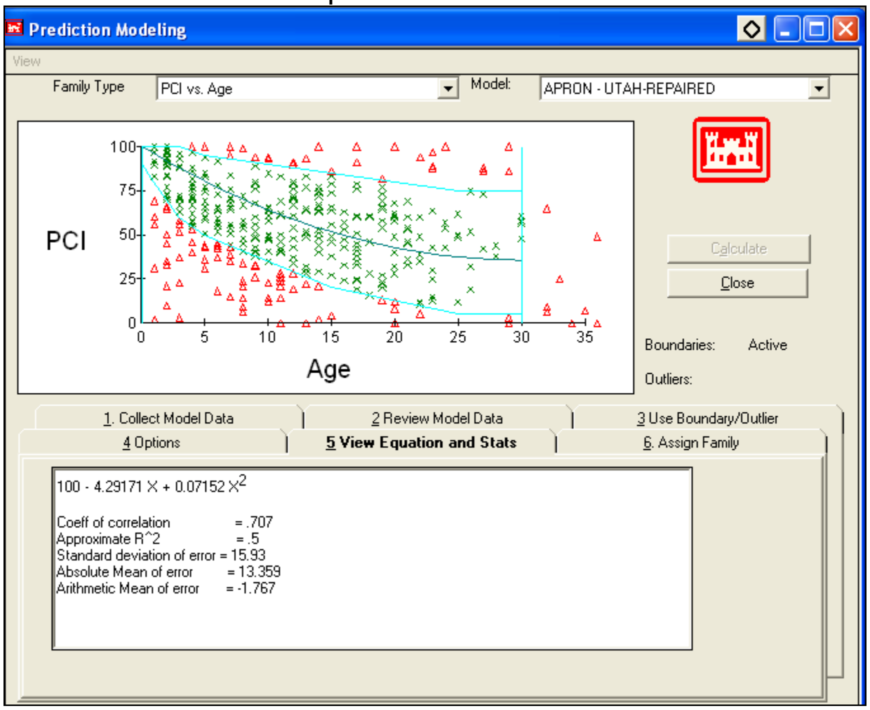
Table A-9. UDOA's costs for major rehabilitation based on PCI values
(Micro PAVER default airfield table)

	PCI Values										
	0	10	20	30	40	50	60	70	80	90	100
Unit Cost (per sf)	$3.33	$3.33	$3.33	$3.33	$2.88	$2.41	$1.94	$1.46	$1.00	$1.00	$1.00

Source: Applied Pavement Technology Inc, UDOA, 2006

Exhibit A-5

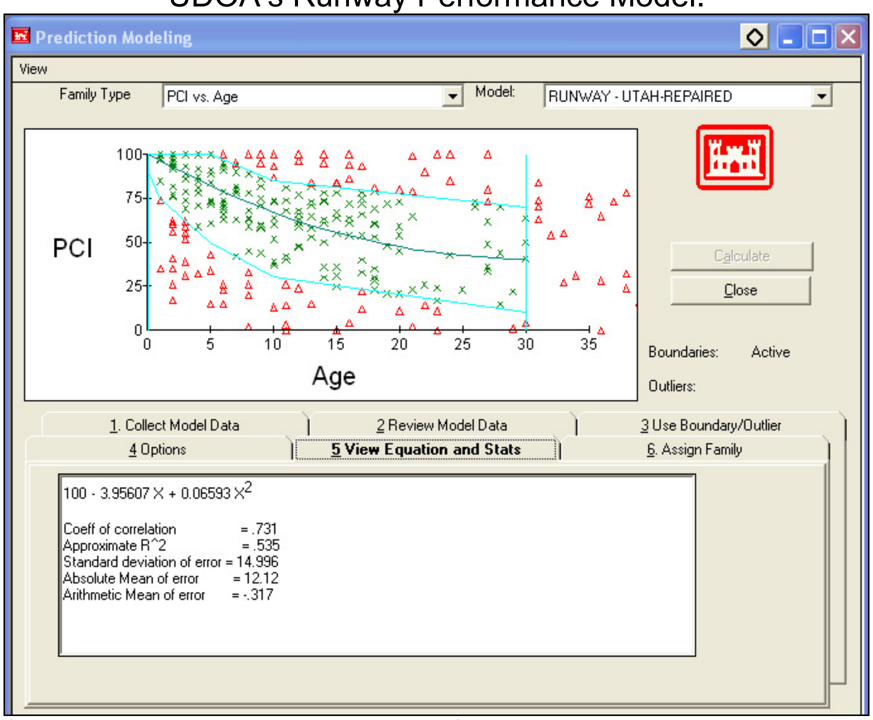
UDOA's Apron Performance Model.



Source: Applied Pavement Technology Inc, UDOA, 2006

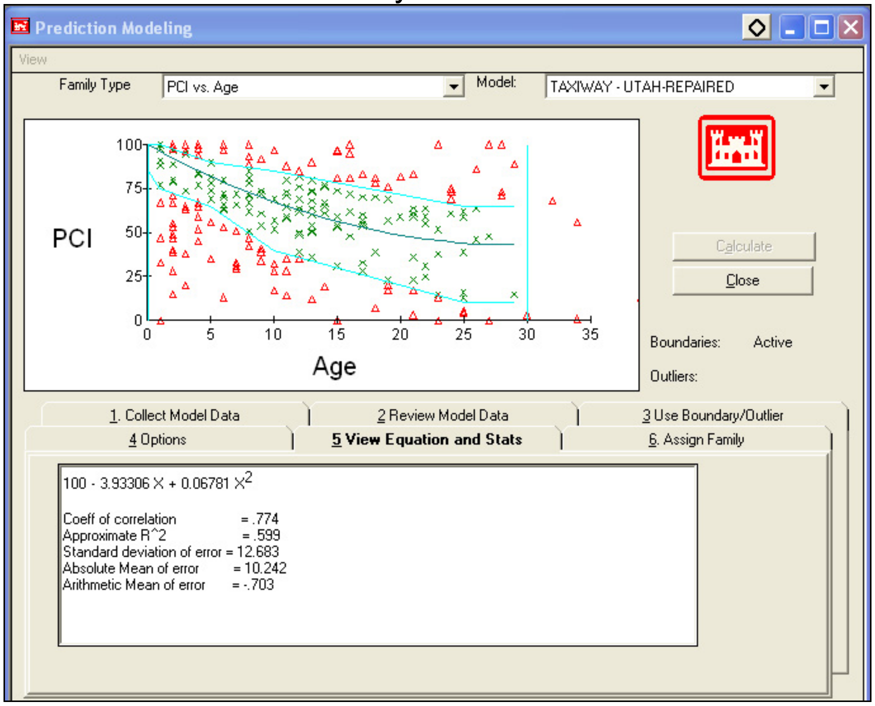
Exhibit A-6

UDOA's Runway Performance Model.



Source: Applied Pavement Technology Inc, UDOA, 2006

Exhibit A-7
UDOA's Taxiway Performance Model.



Source: Applied Pavement Technology Inc, UDOA, 2006

Appendix B: Land Use Compatibility

Aviation is a vital component of the nation's overall transportation system. Along with highways, transit systems, railroads and marine systems, airports are part of the transportation infrastructure that provides for the movement of people and goods.

Airports are part of the commercial/industrial economic engine for the region they serve and occupy large parcels of land, often near cities or areas with concentrated development. Airports generally include a variety of aviation-related features such as runways and taxiways, terminal buildings, hangars, parking aprons, tie-down areas, fuel farms, and supporting service buildings. Navigational aids, lighting, and related flight safety features are usually included. Aviation-related businesses often occupy space at airports. Airports are linked to other transportation modes through streets, highways, and nearby transit systems or rail lines.

The land within an airport boundary is dedicated to aviation facilities, operations areas (such as clear zones and runway safety areas), and future growth. The master planning process addresses land use issues within and adjacent to airports. This includes runway approach and departure paths, aircraft flight patterns, and noise from aircraft operations, since these activities often influence land uses near the airport.

Establishing and maintaining compatibility between an airport and adjacent land uses requires coordination and cooperation between the airport sponsor and nearby jurisdictions. This is often a complex and challenging task since each party may have very different land use goals and objectives. A successful partnership between these entities is vital to the airport. Frequently, this requires the airport sponsor and the State to document the airport's contribution to the community. Typically, this is best accomplished by describing the airport's role in regional economics and development.

Airports in the Utah Airport System range from small general aviation airfields to large commercial airports. The land around each airport varies from open rural land to densely populated urban areas. The following section describes the current status and the extent to which compatible land use planning is integrated into Utah's airport system.

LAND USE COMPATIBILITY AS PART OF THE AVIATION PLANNING PROCESS

Typically, land use plans are developed by local agencies or municipalities as part of their comprehensive planning process. Comprehensive plans describe the existing and planned uses of land within a specific area. Land use plans are implemented through zoning ordinances that attach legal requirements and limitations to individual parcels of land. Infrastructure plans, including transportation plans, may be included as part of comprehensive plans, with airports as a modal component. Airports have unique physical characteristics, service needs, and impacts on their surroundings that may be captured in compatible land use plans, overlay zones, and other mechanisms.

However, the unique needs of airports are not always taken into account when land use plans are developed, and existing plans may become obsolete if not properly implemented and enforced. This may result in operational restrictions, noise complaints, or loss of growth potential as a result of incompatible land uses around an airport.

Incompatibility may result from significant changes to plans or zoning ordinances or when variances are issued to developers. A more subtle challenge to compatibility may occur through gradual encroachment of incompatible uses, particularly in the absence of a specific airport compatible land use plan or overlay zone ordinance.

Airport Roles

The characteristics of an airport overlay zone depend on several factors including: the size of the airport, the type and frequency of aircraft activity, and the type of approach procedure (visual or instrument). Chapter 3 – Airport Role Analysis, identified roles for each system airport based on four measurable factors. The factors used to identify the role of each airport were: Activity Served, Economic Support Provided, Facilities and Accessibility, and Demographics. The following details the airport roles and identifies the characteristics or services airports in each role provide. In general airports in higher roles serve higher levels of activity and\or larger aircraft. As a result airports in higher roles require larger overlay zones and more deliberate compatible land use measures.

<u>International Airports</u>
Only one airport in Utah (Salt Lake International) currently fills the International role. International airports accommodate the highest level of commercial service and general aviation activity and serve large population and business centers.

<u>National Airports</u>
Airports in the National role accommodate a high level of commercial service and general aviation activity and serve major population centers or tourism destinations in the state.

<u>General Aviation Regional Airports</u>
General Aviation Regional airports serve primarily general aviation activity, with a focus on serving business activity including business jet and multi-engine aircraft.

<u>General Aviation Community Airports</u>
General Aviation Community airports focus on providing aviation access for small business, recreational, and personal flying activities throughout Utah. These airports are located throughout the state and typically provide access to small to medium GA aircraft. Some airports in this category accommodate limited numbers of business jet operations.

General Aviation Local Airports

Airports in the Local role primarily support recreational and personal flying activities conducted in smaller single engine general aviation aircraft. Airports in this role generally accommodate less than 3,000 annual operations.

Land Use Compatibility Issues

Table B-1 summarizes land use compatibility issues and the planning efforts that have occurred at each airport in the Utah system. The table indicates the land use complexity surrounding each airport, the potential for future incompatible development, and whether the land uses surrounding each airport is currently compatible. Subsequent exhibits identify compatible land use planning efforts by Utah Continuous Airport System Plan (UCASP) airport role.

Airport Planning

The process for ensuring compatible land use around airports begins with planning for the airport itself. The FAA has a formal master planning process for airports that considers the existing conditions and long-range requirements for the airport to accomplish its intended role in the aviation system. The process considers aviation demand, airport facility requirements, aviation operations, airspace utilization, and environmental factors. Master Plans, or Airport Layout Plans (ALP), cover a 20-year planning period and should be updated at least once every 10 years to account for changes in airport operations and surrounding land uses.

Each airport and its setting are unique and require special attention to site-specific conditions. The status of planning for Utah airports is summarized in **Exhibit B-2**. Note that the existing St. George Municipal Airport is not included in this section, because it will soon be replaced by the new St. George Airport, which is included.

Table B-1
Land Use Summary and Issues at Utah Airports

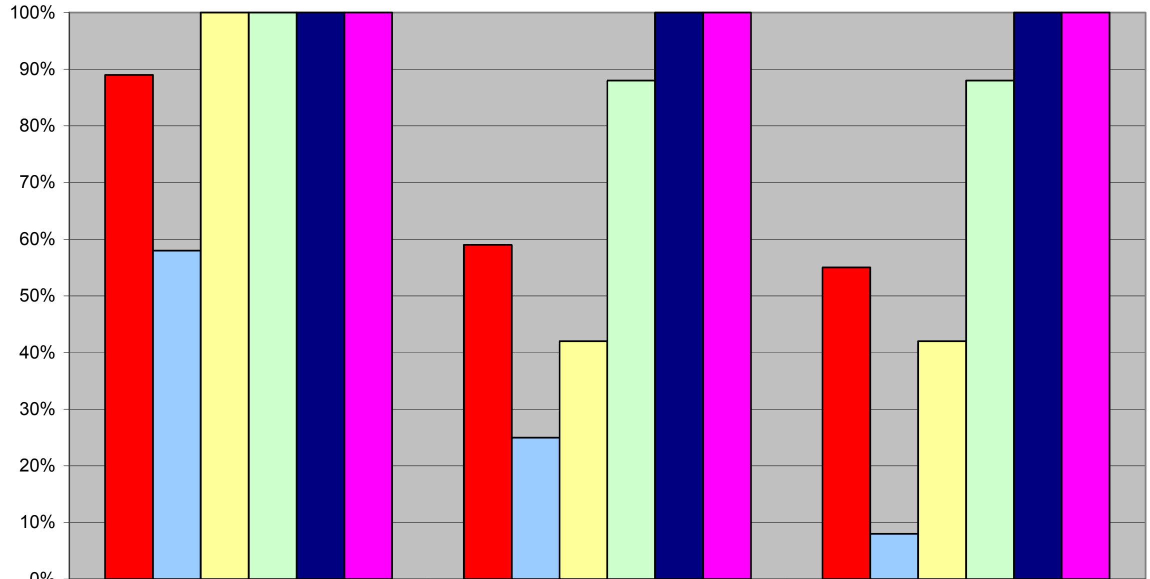
ASSOCIATED CITY	AIRPORT NAME	UCASP ROLE	AIRPORT GROWTH POTENTIAL	AIRPORT LAYOUT PLAN (Year)	MASTER PLAN (Year)	LAND USE COMPLEXITY	COMPATIBLE LAND USE PLAN	INCOMPATIBLE DEVELOPMENT ENCROACHMENT POTENTIAL	COMPATIBLE LAND USE AROUND AIRPORT
Beaver	Beaver Municipal	Community	Low	2002	NA	Low	No	Low	Yes
Blanding	Blanding Municipal	Community	Low	2002	1996	Medium	Yes	Low	Yes
Bluff	Bluff Airport	Local	Low	NA	NA	Low	No	Low	No
Bountiful	Skypark	Regional	Low	2002	2002	High	No	High	Yes
Brigham City	Brigham City Municipal	Regional	Medium	1998	1996	Low	Unknown	Low	Yes
Bryce Canyon	Bryce Canyon	Community	Low	2002	NA	Medium	Yes	Low	No
Cedar City	Cedar City Regional	Regional	High	2003	2001	Medium	Yes	Medium	Yes
Delta	Delta Municipal	Community	Low	2005	2003	Low	No	Low	Yes
Duchesne	Duchesne Municipal	Local	Low	2003	NA	Low	In Process	Low	No
Dutch John	Dutch John	Local	Low	2004	NA	Low	In Process	Low	Yes
Eagle Mountain	Jake Garn	Community	Medium	1998	NA	High	In Process	Medium	Unknown
Escalante	Escalante Municipal	Community	Low	1999	NA	Low	No	Low	No
Fillmore	Fillmore	Community	Low	2006	NA	Low	No	Medium	No
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Local	Low	NA	NA	Low	No	Low	Yes
Green River	Green River	Community	Low	2002	NA	Low	Yes	Low	No
Halls Crossing	Halls Crossing	Local	Medium	NA	1987	Low	No	Low	No
Hanksville	Hanksville	Local	Low	2004	NA	Low	No	Low	No
Heber	Heber City Municipal	Regional	High	2005	1993	High	No	High	Partially
Huntington	Huntington Municipal	Local	Low	2004	2005	Low	Yes	Low	Yes
Hurricane	Hurricane	Regional	Medium	2002	2000	Medium	Yes	High	Yes
Junction	Junction	Local	Low	NA	NA	Low	No	Medium	No
Kanab	Kanab Municipal	Regional	Medium	2004	2002	Medium	No	Medium	Yes
Loa	Wayne Wonderland	Local	Low	2002	NA	Low	No	Low	Yes
Logan	Logan-Cache	Regional	High	2003	1992	Medium	No	High	Yes
Manila	Manila	Local	Low	2004	NA	Medium	Yes	Medium	Yes
Manti	Manti-Ephraim	Community	Low	1995	1994	Low	Yes	Low	Yes
Milford	Milford Municipal	Community	Low	2000	NA	Low	No	Low	Yes
Moab	Moab-Canyonlands Field	Regional	Medium	2001	1995	Low	Yes	Low	Yes
Monticello	Monticello	Community	Low	2004	1995	Low	Yes	Low	Yes

Table B-1, Continued
Land Use Summary and Issues at Utah Airports

ASSOCIATED CITY	AIRPORT NAME	UCASP ROLE	AIRPORT GROWTH POTENTIAL	AIRPORT LAYOUT PLAN (Year)	MASTER PLAN (Year)	LAND USE COMPLEXITY	COMPATIBLE LAND USE PLAN	INCOMPATIBLE DEVELOPMENT ENCROACHMENT POTENTIAL	COMPATIBLE LAND USE AROUND AIRPORT
Morgan	Morgan County	Regional	Low	1995	1998	High	Unknown	High	Yes
Mount Pleasant	Mount Pleasant	Local	Low	Unknown	2002	Low	No	Low	Yes
Nephi	Nephi Municipal	Regional	Medium	1995	1995	Medium	Yes	Low	Yes
Ogden	Ogden-Hinckley Municipal	Regional	Low	2006	1993	High	No	High	Yes
Panguitch	Panguitch Municipal	Community	Low	2005	1993	Low	No	Low	Yes
Parowan	Parowan	Community	Medium	2002	1995	Medium	Yes	Low	Yes
Price	Price-Carbon County	Regional	Medium	2005	1993	Low	Yes	Low	Yes
Provo	Provo Municipal	Regional	High	2000	2000	Medium	Yes	High	Yes
Richfield	Richfield Municipal	Regional	Medium	2005	2000	Medium	Yes	Medium	Yes, city only
Roosevelt	Roosevelt Municipal	Community	Low	1999	NA	Low	Yes	Low	Yes
Salina	Salina-Gunnison	Local	Low	2003	NA	Low	No	Low	No
Salt Lake City	Salt Lake City International	International	Low	2007	2007	Medium	Yes	Low	Yes
Salt Lake City	Salt Lake City Muni 2	Regional	Medium	2007	2006	High	Yes	High	Yes
Spanish Fork	Spanish Fork-Springville	Regional	Medium	2005	2005	Medium	No	High	Yes
St George	St George New	National	High	2001	2001	Medium	Yes	High	Yes
Tooele	Tooele Valley Airport	Regional	High	2005	2005	High	In Process	High	No
Vernal	Vernal	Regional	Medium	2006	NA	High	In Process	High	No
Wendover	Wendover	National	Low	1999	1990	Low	Yes	Medium	Yes

Source: Wilbur Smith Associates, UDOA, 2007

Exhibit B-2
System Airports with Airport Layout Plans and Master Plans



	Airports with Airport Layout Plans	Airports with Master Plans	Airports with Airport Layout Plans and Master Plans
System	89%	59%	55%
Local	58%	25%	8%
Community	100%	42%	42%
Regional	100%	88%	88%
National	100%	100%	100%
International	100%	100%	100%

Source: Wilbur Smith Associates, UDOA, 2007

When viewed from a system perspective, the following observations can be made about the status of airport planning within Utah's system:

- Overall, airport planning is a strong point of the Utah aviation program. Of the 47 airports in the system, 42 or 89 percent have an approved airport layout plan. Of these plans all except three have been updated within the last 10 years. One hunderd percent of Community, Regional, National, and International airports have an approved ALP.

- Within the Utah Airport System, all of the airports in the International and National roles have a current master plan. Regional airports also are well-covered, with 88 percent having a master plan. Fifty-five percent of all system airports have both a current ALP and master plan.

The objectives of the UCASP are to continually update all airport plans, to keep them current and to add the few plans that are currently missing. The above statistics show that Utah is performing well in the area of individual airport planning.

Airspace Obstructions

Federal Aviation Regulations (FAR) Part 77 allows the "FAA to identify potential aeronautical hazards in advance thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace" Zoning in the airport vicinity based on Part 77 surfaces is a basic requirement for safe airport operations. Zoning should protect Part 77 surfaces needed for future development of the airport and future operations, not on current conditions.

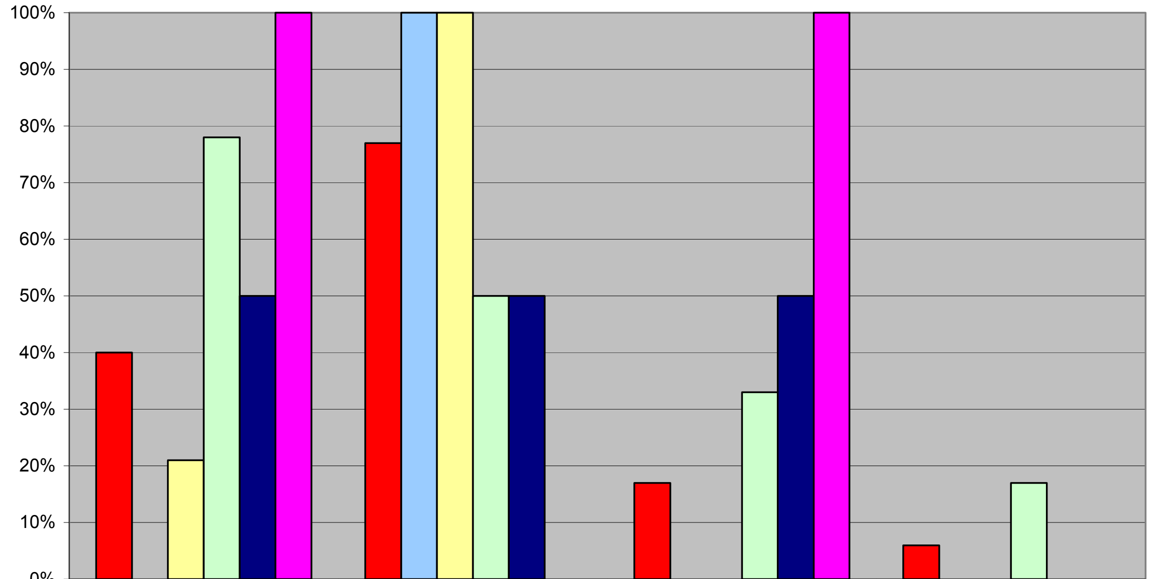
The survey data in this category is a little suspect because it shows a regression in zoning since the earlier survey. Based on the available data, considerable work remains to be done in this area. **Exhibit B-3** identifies system airports with Part 77 zoning in place. Only 40 percent of airports in the Utah system currently have Part 77 zoning in place. Airports in the Local and Community roles are even further behind, with 0 percent of Local and 21 percent of Community airports having adopted Part 77 zoning.

Aircraft Noise

Incompatible land use around airports often is vocalized in the form of noise complaints. Although many Utah airports do not have a noise abatement program or compatible land use plan, few of them experience noise complaints. As shown in Exhibit B-3 77 percent of Utah system airports had no noise complaints in the last year.

The noise situation is excellent for Utah's Local and Community airports. None of the airports in these two roles reported receiving any noise complaints during the last year. Only three airports in Utah's entire airport system had more than ten noise complaints last year, with the maximum number being approximately 25 complaints. These three airports are all in the Regional category.

Exhibit B-3
Part 77 Zoning and Noise Complaints



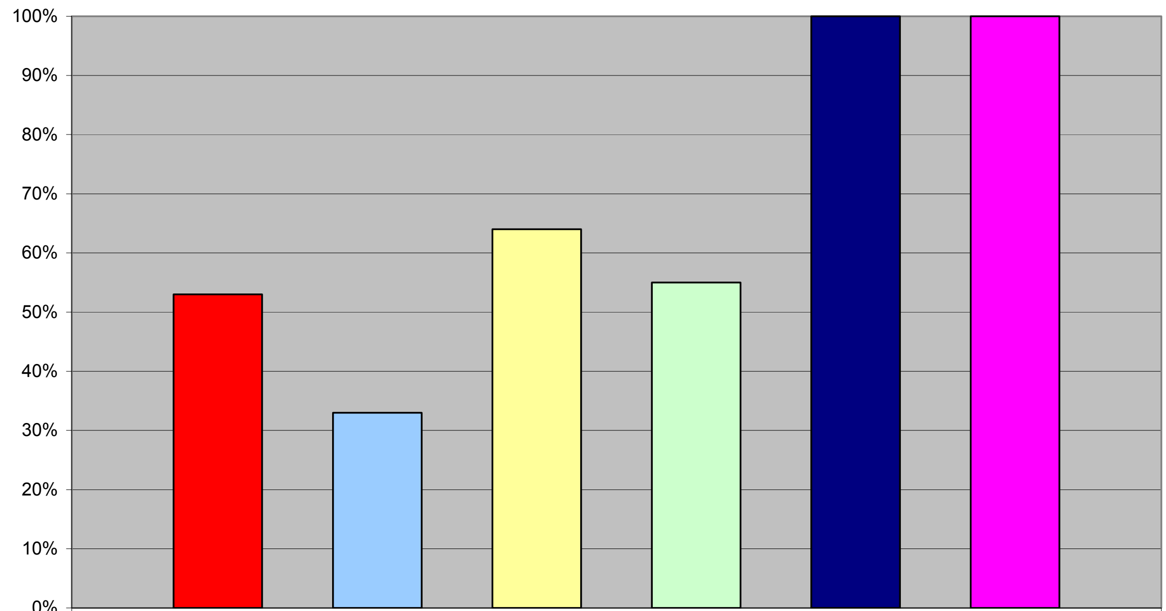
	Airports with Part 77 Zoning	Airports without Noise Complaints	Airports with less than 10 Noise Complaints	Airports with 10 or more Noise Complaints
System	40%	77%	17%	6%
Local	0%	100%	0%	0%
Community	21%	100%	0%	0%
Regional	78%	50%	33%	17%
National	50%	50%	50%	0%
International	100%	0%	100%	0%

Source: Wilbur Smith Associates, UDOA, 2007

Compatible Land Use Plans

Ideally, airport planning should influence the development of the land surrounding the airport, resulting in uses that are compatible with aviation activities. However, the situation in Utah is quite tenuous, as shown in **Exhibit B-4.** Only 53 percent of Utah system airports are protected by an airport compatible land use plan. Fortunately, 100 percent of the airports in the National and International roles reside in jurisdictions that have adopted a compatible land use plan. On the other hand, just over half of the airports in the Regional role and one-third of the airports in the Local role reported having a compatible land use plan in place.

Exhibit B-4
Compatible Land Use Planning



	Airports with Compatiable Land Use Plans
System	53%
Local	33%
Community	64%
Regional	55%
National	100%
International	100%

Source: Wilbur Smith Associates, UDOA, 2007

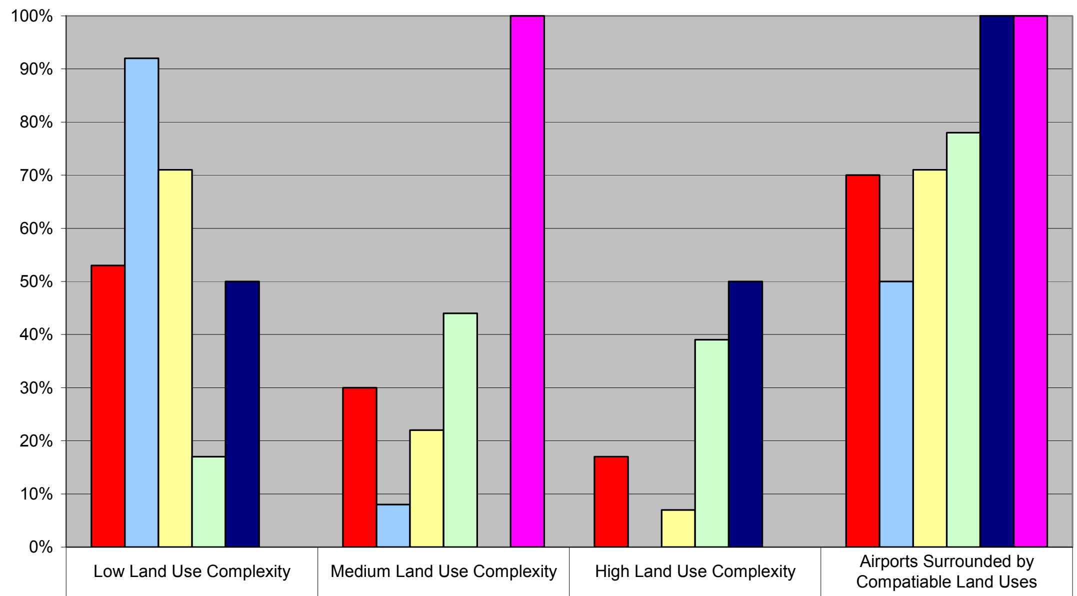
LAND USE COMPATIBILITY IN THE UTAH AIRPORTS SYSTEM

Exhibit B-5 identifies the land use complexity surrounding airports in Utah, the potential for future incompatible development, and airports with current or future incompatible development issues.

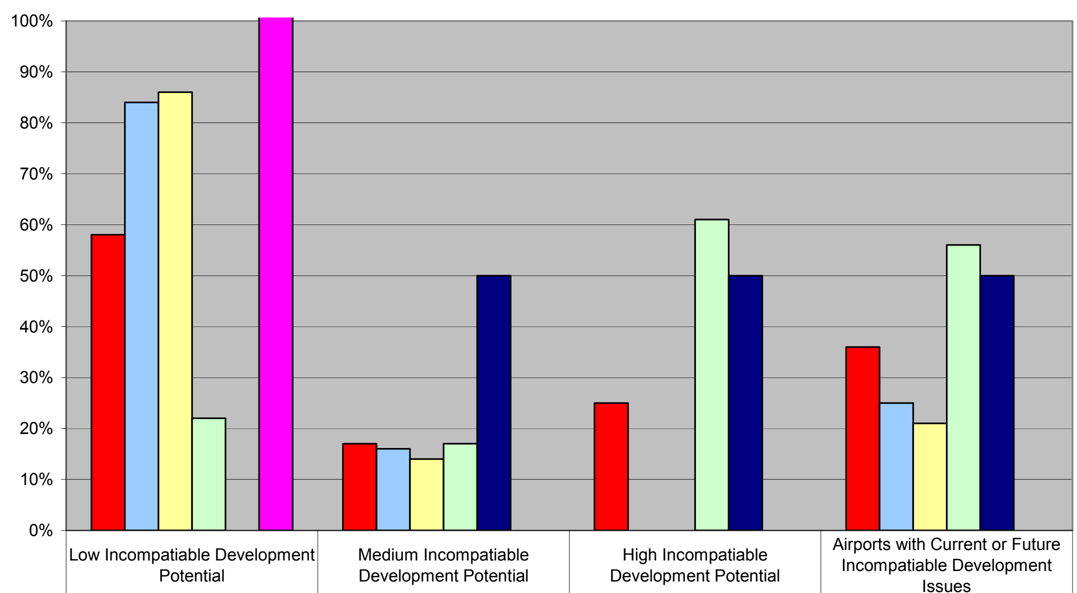
Existing land use around Utah's airports currently reflects fair to good system-wide conditions. According to survey information, 53 percent of Utah airports rated the complexity of surrounding land use as low. Seventy percent reported the surrounding land use is compatible with their airport's operations, and 58 percent of the airports have a low expectation that incompatible development will occur around their airport in the future.

The assessment is a little different when viewed by UCASP airport role. Over 80 percent of Local and Community airports have low potential for future incompatible development, while over 60 percent of Regional airports have high potential for future incompatible development. Fortunately, 78 percent of Regional airports and 100 percent of National and International airports currently have compatible land uses around their facilities. However, 78 percent of Regional airports have a medium or high potential for future encroachment of incompatible development, and 56 percent of Regional airport reported having current or future incompatible development issues.

Exhibit B-5
Land Use Planning



	Low Land Use Complexity	Medium Land Use Complexity	High Land Use Complexity	Airports Surrounded by Compatiable Land Uses
System	53%	30%	17%	70%
Local	92%	8%	0%	50%
Community	71%	22%	7%	71%
Regional	17%	44%	39%	78%
National	50%	0%	50%	100%
International	0%	100%	0%	100%



	Low Incompatiable Development Potential	Medium Incompatiable Development Potential	High Incompatiable Development Potential	Airports with Current or Future Incompatiable Development Issues
System	58%	17%	25%	36%
Local	84%	16%	0%	25%
Community	86%	14%	0%	21%
Regional	22%	17%	61%	56%
National	0%	50%	50%	50%
International	100	0%	0%	0%

Source: Wilbur Smith Associates, UDOA, 2007

Planning and Enforcement Actions

Controls on the development of land around airports can prevent incompatible uses, but only if they are adequately implemented and effectively enforced. Less than half of Utah airports indicated active enforcement, and only half of them provided a description of the enforcement activity. The mechanisms that are typically used for enforcement include: land acquisition, aviation easements, height restrictions, overlay zoning, residential housing restrictions, and cooperation among affected governmental organizations. **Table B-6** summarizes the land use compatibility issues at each system airport and identifies the jurisdiction responsible for land use control surrounding each airport. Recommendations are presented to improve or maintain land use compatibly surrounding each airport.

A significant problem with uniform enforcement of land use controls occurs when an airport affects an area in two or more jurisdictions. Often a county and a city have to coordinate actions to be completely effective. In some cases, multiple cities or state/federal agencies become involved. Coordination among all involved agencies on a continuing basis can be as complex as the land use issues to be considered. However, failure to cooperate will allow incompatible uses to develop in one jurisdiction that can threaten the operation, expansion, and even the very existence of the entire airport.

Table B-6
Land Use Issues and Recommendations at Utah Airports

ASSOCIATED CITY	AIRPORT NAME	UCASP ROLE	HOW IS COMPATIBLE LAND USE ENFORCED	CURRENT OR FUTURE INCOMPATIBLE DEVELOPMENT ISSUES	ZONING AUTHORITY FOR LAND USE	PART 77 ZONING IN PLACE	NUMBER OF NOISE COMPLAINTS IN THE LAST YEAR	RECOMMENDED ACTIONS
Beaver	Beaver Municipal	Community	No master plan or compatible comprehensive plan to enforce.	No	Beaver County	No	0	2,5,6,7
Blanding	Blanding Municipal	Community	Height Restrictions	The county could approve development without input from the city.	San Juan County	Yes	0	6,7
Bluff	Bluff Airport	Local	Unknown	Unknown	BLM	No	0	1,2,6,7
Bountiful	Skypark	Regional	Unknown	Yes-Residential Housing	Woods Cross City	Yes	0	4,5,6,7
Brigham City	Brigham City Municipal	Regional	The review of land use flows through the airport advisory board. Surrounding jurisdictions have enacted airport overlay zones, enforced by the development review process. Compatible land use is taken from the ALP.	No	Brigham City & Box Elder County	Yes	0	1,7
Bryce Canyon	Bryce Canyon	Community	Land use around airport is controlled by Garfield County ordinance. State and Federal land management agencies are also involved.	No issues foreseen at this time.	Garfield County	No	0	2,4,6,7
Cedar City	Cedar City Regional	Regional	Compatible land use plan is enforced by city ordinance and county ordinance.	Yes- Land acquisition required for planned runway extension	Cedar City & Iron County	Yes	5	3,4
Delta	Delta Municipal	Community	Unknown	County Golf Course with a small housing development	Millard County	No	0	2,5,6,7
Duchesne	Duchesne Municipal	Local	The City of Duchesne is in the process of completing a comprehensive land use plan. When completed the plan will define appropriate land use around the airport, and will be enforced by the City.	No	Duchesne City	No	0	2,6,7
Dutch John	Dutch John	Local	Development of a comprehensive land use plan for Daggett County and the airport is in process	Yes-- some residential encroachment	Dutch John & Daggett County	No	0	2,5,6,7
Eagle Mountain	Jake Garn	Community	Unknown	Unknown	City of Eagle Mountain	Unknown	Unknown	2,4,5,6,7
Escalante	Escalante Municipal	Community	Unknown	Unknown	Garfield County	No	0	2,5,6,7
Fillmore	Fillmore	Community	City of Fillmore is in the process of enacting an overlay zone ordinance around the airport	No, currently rebuilding airport after it was destroyed in fire. Will have 5000 foot runway, additional hangers and fuel options.	Fillmore City	No	0	2,5,6,7
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Local	All land use within Glen Canyon Area is governed by 1979 general management plan.	No	National Park Service	No	0	2,5,7

Table B-6, Continued
Land Use Issues and Recommendations at Utah Airports

ASSOCIATED CITY	AIRPORT NAME	UCASP ROLE	HOW IS COMPATIBLE LAND USE ENFORCED	CURRENT OR FUTURE INCOMPATIBLE DEVELOPMENT ISSUES	ZONING AUTHORITY FOR LAND USE	PART 77 ZONING IN PLACE	NUMBER OF NOISE COMPLAINTS IN THE LAST YEAR	RECOMMENDED ACTIONS
Green River	Green River	Community	No development has occurred near the airport limiting the need for compatible land use enforcement.	No	Emery County	No	0	2,6,7
Halls Crossing	Halls Crossing	Local	Unknown	Unknown	BLM & San Juan County	No	0	1,2,6,7
Hanksville	Hanksville	Local	No master plan or compatible comprehensive plan to exists to enforce.	Airport is surrounded by BLM land that is undevelopable,	BLM	No	0	2,6,7
Heber	Heber City Municipal	Regional	Enforced by Wasatch County Airport Overlay Zone	Residence in close proximity to airport	Heber City	No	10	2,3,4,5,6,7
Huntington	Huntington Municipal	Local	Compatible land use enforcement is through the County Land Use Plan. The plan provides direction on correcting deficiencies such as purchasing the final piece of adjacent private property.	Airport is surrounded by BLM land that is undevelopable, limiting future incompatible development issues	Emery County	No	0	2,6,7
Hurricane	Hurricane	Regional	Through the City of Hurricane Planning and Zoning	Growing residential around the airport poses future conflicts	Hurricane City	Yes	0	4,5,6,7
Junction	Junction	Local	Enforced by Junction City Council	Yes, residential encroachment & power lines off the south end of the runway.	Town of Junction & Piute County	No	0	1,2,5,6,7
Kanab	Kanab Municipal	Regional	Unknown	NA	Kanab City	Yes	2	4,5,6,7
Loa	Wayne Wonderland	Local	Unknown	No	Wayne County	Unknown	0	2,6,7
Logan	Logan-Cache	Regional	The two municipalities adjacent to the airport have not adopted the airport overlay zoning ordinance.	No	Logan City & Cache County	Yes	3	4,5,6,7
Manila	Manila	Local	Enforced through the Compatible Land Use Plan for the City of Manila	Yes, residential encroachment on an adjacent hillside has come in conflict with the airport	Manila City & Daggett County	No	0	2,5,6,7
Manti	Manti-Ephraim	Community	Currently there is limited demand for development around the airport, The area immediately around the airport is zoned but needs to be expanded.	Yes, there is ample agricultural ground in the area that could be developed into incompatible uses	Sanpete County	No	0	1,2,6,7
Milford	Milford Municipal	Community	Not needed at this time.	No	Milford City & Beaver County	Yes	0	5,6,7
Moab	Moab-Canyonlands Field	Regional	Land use immediately adjacent to the airport is enforced thru County planning ordinances. Public lands (BLM) or Sovereign Nation lands in the area are controlled by those entities.	No issues forseen at this time.	Grand County	No	0	2,4,6,7

Table B-6, Continued
Land Use Issues and Recommendations at Utah Airports

ASSOCIATED CITY	AIRPORT NAME	UCASP ROLE	HOW IS COMPATIBLE LAND USE ENFORCED	CURRENT OR FUTURE INCOMPATIBLE DEVELOPMENT ISSUES	ZONING AUTHORITY FOR LAND USE	PART 77 ZONING IN PLACE	NUMBER OF NOISE COMPLAINTS IN THE LAST YEAR	RECOMMENDED ACTIONS
Monticello	Monticello	Community	Land use is enforced by the County thru the Comprehensive Land Use Plan.	No	San Juan County	Unknown	0	2,5,6,7
Morgan	Morgan County	Regional	County Land Use ordinances are enforced thru the County Planning offices	Resolution of some residential and commercial encroachment issues is currently under study.	Mountain Green & Morgan County	Yes	0	3,4,5,6,7
Mount Pleasant	Mount Pleasant	Local	Unknown	No	Mt. Pleasant City	No	0	2,6,7
Nephi	Nephi Municipal	Regional	Juab County requests input from Nephi City on development proposals in the valley	No	Juab County	Yes	0	1,4,7
Ogden	Ogden-Hinckley Municipal	Regional	Development issues managed by Ogden City Planning and City Council in coordination with the Airport Manager	Demolition dump north of the airport	Ogden City & Roy City	Yes	25+	3,4,5,6,7
Panguitch	Panguitch Municipal	Community	Unknown	No	Panguitch City & Garfield County	No	0	2,5,6,7
Parowan	Parowan	Community	The City of Parowan works with other parties to insure that no building takes place in conflict of the airport overlay plan.	No	Parowan City, Paragonah Town & Iron County	Yes	0	7
Price	Price-Carbon County	Regional	Unknown	No	Price City & Carbon County	Yes	0	6,7
Provo	Provo Municipal	Regional	The airport protection area restricts housing and is enforced by the Provo City Planning Commission	No	Provo City	Yes	3	3,4,7
Richfield	Richfield Municipal	Regional	Height Restrictions	East side of airport has height problems that will be eliminated when new runway is complete.	Richfield City & Sevier County	Yes	0	4,7
Roosevelt	Roosevelt Municipal	Community	County land use manager controls most of the land around the airport.	No	Roosevelt City	Unknown	0	2,6,7
Salina	Salina-Gunnison	Local	Unknown	No	Salina City, Gunnison City & Sevier County	No	0	2,6,7
Salt Lake City	Salt Lake City International	International	Avigation Easements	No	Salt Lake City	Yes	9	3,4,7
Salt Lake City	Salt Lake City Muni 2	Regional	Avigation Easements	Yes-Residential Encroachment	West Jordan & Salt Lake County	Yes	9	3,4,6,7
Spanish Fork	Spanish Fork-Springville	Regional	City & County ordinances are in place to support compatible land use footprint of the airport. Avigation easements are also in place.	Yes	Spanish Folk City, Springville City & Utah County	Yes	5	3,4,5,7

Table B-6, Continued
Land Use Issues and Recommendations at Utah Airports

ASSOCIATED CITY	AIRPORT NAME	UCASP ROLE	HOW IS COMPATIBLE LAND USE ENFORCED	CURRENT OR FUTURE INCOMPATIBLE DEVELOPMENT ISSUES	ZONING AUTHORITY FOR LAND USE	PART 77 ZONING IN PLACE	NUMBER OF NOISE COMPLAINTS IN THE LAST YEAR	RECOMMENDED ACTIONS
St George	St George New	National	City Planning and Zoning manages airport planning and zoning issues.	No	City of St. George	Yes	NA	3,4,6,7
Tooele	Tooele Valley Airport	Regional	Avigation Easements	Residential Encroachment	Tooele County	No	20	2,3,4,5,6,7
Vernal	Vernal	Regional	Zoning authority surrounding the Vernal airport is shared by three entities: the City of Vernal, The City of Naples and Uinta County. The airport is developing an airport overlay zone to make zoning and enforcement consistent. Once the airport overlay zone is adopted by each jurisdiction, zoning enforcement will be accomplished thru an Airport Administration Board.	Residential & Commercial Encroachment	Uintah County, Vernal City & Naples City	No	0	2,4,6,7
Wendover	Wendover	National	Enforced through Tooele County Planning and Zoning	Heights of buildings to the west of the airport. Buildings are located across the border in Nevada.	Wendover City & Tooele County, Utah and West Wendover and Elko County, Nevada	No	0	2,6,7

1. Prepare/Update Airport MP/ALP
2. Enact Part 77 Zoning Ordinance
3. Implement Flight Path/ Noise Abatement Procedure
4. Acquire Land and/or Easements to Protect Airport Operations
5. Develop/Adopt Airport Land Use Compatibility Plan
6. Implement Overlay Plans/Zoning for Flight Paths, Height, Noise, Land Use.
7. Monitor Development Trends and Identify Conflicting Development Proposals

Source: UDOA, Wilbur Smith Assoc., 2007

MAINTAINING AIRPORT COMPATIBLE LAND USE

Compatibility Challenges at Airports

Each airport in Utah's system has its own unique physical facilities, service mission, operational characteristics, and growth potential. They all face the threat of losing their ability to operate in the future if they do not maintain a compatible environment. A combination of short-term actions and long-range planning are necessary to create an effective program for each airport. Common actions available to airports for use in developing programs that meet their unique needs include:

- Preparing and periodically updating airport master plans or airport layout plans that include on-airport and off-airport land uses
- Enacting a Part 77 zoning ordinance to protect the safety of existing and future aircraft operations
- Implementing flight pattern requirements/restrictions and noise abatement procedures to reduce the airport's affect on surrounding land uses
- Acquiring land for future expansion and aviation easements to protect aircraft operations
- Developing airport land use compatibility plans for the area surrounding the airport, taking into consideration existing conditions and future needs of the airport and the community
- Updating local agency comprehensive land use plans to incorporate on-airport and off-airport plans and operating requirements
- Implementing aviation overlay plans or zoning for flight paths, height restrictions, noise, safety, and land use
- Monitoring development trends to identify development proposals that might jeopardize airport operations and prevent long-term undesirable land uses
- Enforcing land use plans and zoning ordinances, actively and consistently across jurisdictional boundaries

The recommended actions for each of the Utah airports are indicated in Table B-6.

LAND USE COMPATIBILITY PLANNING

Existing Framework

Compatible land use planning for Utah's airports is enveloped within a layered system of programs and processes that cascade downward from federal to state agencies to local governmental units, and to special purpose districts that own and operate public airports.

Airport planning is most directly influenced at the highest level by the Federal Aviation Administration (FAA), responsible for planning the overall national aviation system, including airspace and airports. The FAA is charged with the formulation and maintenance of the National Plan of Integrated Airport Systems (NPIAS). Through FAA Order 6090.3C, the NPIAS identifies existing and proposed airports that are significant to national air transportation and estimates the infrastructure development required to meet the needs of all segments of civil aviation. The NPIAS program provides criteria for entry of airports into the national system, to ensure a level of consistency. Among the attributes identified for airport inclusion in the national system is compatibility with surrounding communities, managing a balance between the aviation needs and the requirements of neighboring residential areas.

The FAA also provides a wide range of planning and operation guidelines, applicable to land planning at and around airports. These include: Advisory Circular 150/5070-7, *The Airport System Planning Process*; 150/5070-6B, *Airport Master Plans*; 150/5190-4A, *A Model Zoning Ordinance to Limit Height of Objects Around Airports*; and 150/5020-1, *Noise Control and Compatibility Planning for Airports*.

State aviation programs are primarily based on FAA requirements and are intended to ensure consistency throughout the statewide airport system. State-level programs are enforced through FAA guidelines such as Order 5190.6A, *Airport Compliance Requirements*. However, the real driver is that local public airports must conform to FAA standards to be eligible for federal aviation funding. FAA Order 5100.38, *Airport Improvement Program Handbook*, requires that airports receiving federal grants maintain compatible land use in the vicinity of the airport.

The State of Utah administers its airport system through the Utah Division of Aeronautics (UDOA). The UDOA takes the leadership planning role through development and updating of the Utah Continuous Airport System Program. The State of Utah requires land use compatibility similar to FAA's requirements when grants are issued from the Utah Airport Construction Fund.

Local airport programs are administered by regional agencies or local jurisdictions that own and operate airport facilities. These entities legally are required to adhere to federal and state requirements regarding airport and land use planning. Aviation plans and overlay zones are generated at this level and adopted by the enabled local governmental body (i.e., the city, county, or regional district).

The local agencies are also responsible for development of comprehensive land use plans for their jurisdictional areas. These plans consider existing and future land uses for all types of activity, including transportation systems. Airports usually are included in modal plans, along with restrictions and limitations imposed by their use.

Land Use Planning Resources

Developing a compatible land use plan around an airport requires consideration of many factors. Aviation needs are paramount, but the airport's impacts on uses of nearby lands also must be considered. The issues can be complex and contentious, with competing interests vying for primary consideration. As noted, many aviation planning guides address compatible land use planning. Other land use planning guidelines are available from such sources as the American Planning Association and the Urban Planning Institute which provide guidance in developing regional land use plans that incorporate transportation infrastructure, including airports.

The Wasatch Front Regional Council, the Metropolitan Planning Organization for the Salt Lake City and Ogden areas, has published the *Compatible Land Use Planning Guide for Utah Airports*. This guidebook addresses compatibility issues such as safety and noise and serves as a valuable resource document for owners of public airports in Utah. It describes roles and responsibilities at various levels of government, and it discusses the challenges to airports in achieving compatible land use. The guide provides examples of overlay zones and land use control measures that can be employed to maintain compatible land uses over time. Tables B-1 and B-6 update and compliment this resource.

Compatible Land Use Trends

This update of the UCASP provides new information about land uses around the state's airports. When viewed with pervious studies, it provides a trend of land use compatibility planning for the Utah Airport System. **Table B-7** compares the land use issues identified in the previous compatible land use study with information presented in this study.

Table B-7
Compatible Land Use Trends at Utah Airports

		2000 Compatible Land Use Planning Guide for Utah Airports	2007 Compatible Land Use Planning Guide for Utah Airports	Increase \ (Decrease)
Airports with Compatible Land Use Plans	Yes	15	20	5
	In Process	2	5	3
	Unknown	2	2	0
	No	28	20	(8)
Airports with Part 77 Zoning	Yes	17	19	2
	In Process	3	0	(3)
	Unknown	4	4	0
	No	24	24	0
Incompatible Development Encroachment Potential	Low	29	27	(2)
	Medium	11	9	(2)
	High	7	12	5
Airport Growth Potential	Low	32	28	(4)
	Medium	10	13	3
	High	5	7	2
Land Use Complexity	Low	29	25	(4)
	Medium	11	15	4
	High	6	8	2

Source: UDOA, Wilbur Smith Assoc., 2007

SUMMARY

This chapter discusses the current status of compatible land use for areas adjacent to Utah airports and relevant governing bodies. Known land use problems are identified, resource tools are described, and potential solutions to common situations are suggested. The key to development and maintenance of compatible land use for the future is in the melding of consistent planning efforts between the state government and responsible local entities. The UCASP provides a roadmap for long-term guidance, while the *Compatible Land Use Planning Guide for Utah Airports* serves as a companion tool to direct those responsible at the local level.

Appendix C: Current Facility and Service Objective Compliance

A variety of actions and recommendations are needed to enable system airports to meet target objectives established in the Utah Continuous Airport System Plan (UCASP). Facility and service objectives for National, Regional, Community, and Local airports have been established to enable system airports to fulfill their functional roles and were identified in Chapter Three – Airport Role Analysis. In many instances, system airports have identified similar facility and service needs as part of their individual capital improvement programs and are proceeding to address many of the facility and service-related needs identified in the Utah Continuous Airport System Plan.

This chapter further identifies and expands on the facility and service objectives. The objectives will be analyzed to determine current compliance. This chapter is divided into two sections. The first section describes each of the airside facilities that are recommended at each system airport. The second section identifies general aviation landside facilities and services that should be offered at those airports.

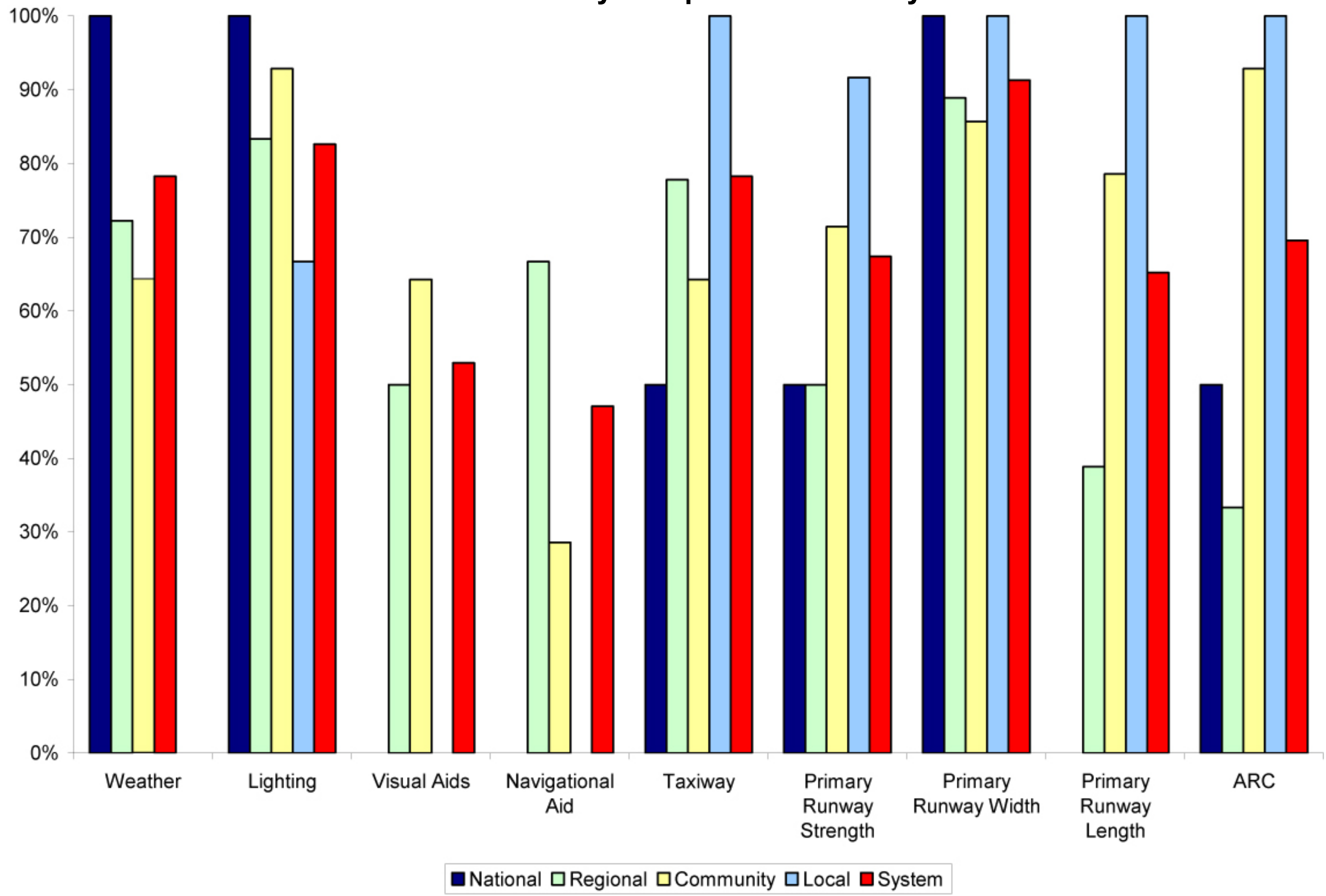
AIRSIDE FACILITIES

Airside facilities play the most significant role in the ability to support system needs. Airside facility objectives developed include the following items:

- Airport Reference Code (ARC)
- Runway Length
- Runway Width
- Runway Strength
- Taxiway
- Navigational Aid (Approach Type)
- Visual Aids
- Lighting
- Weather

Chart C-1 summarizes the system's compliance for each airside facility objective.

Chart C-1
Airside Facility Compliance Summary



Source: UDOA, Wilbur Smith Associates, 2006

Airport Reference Code (ARC)

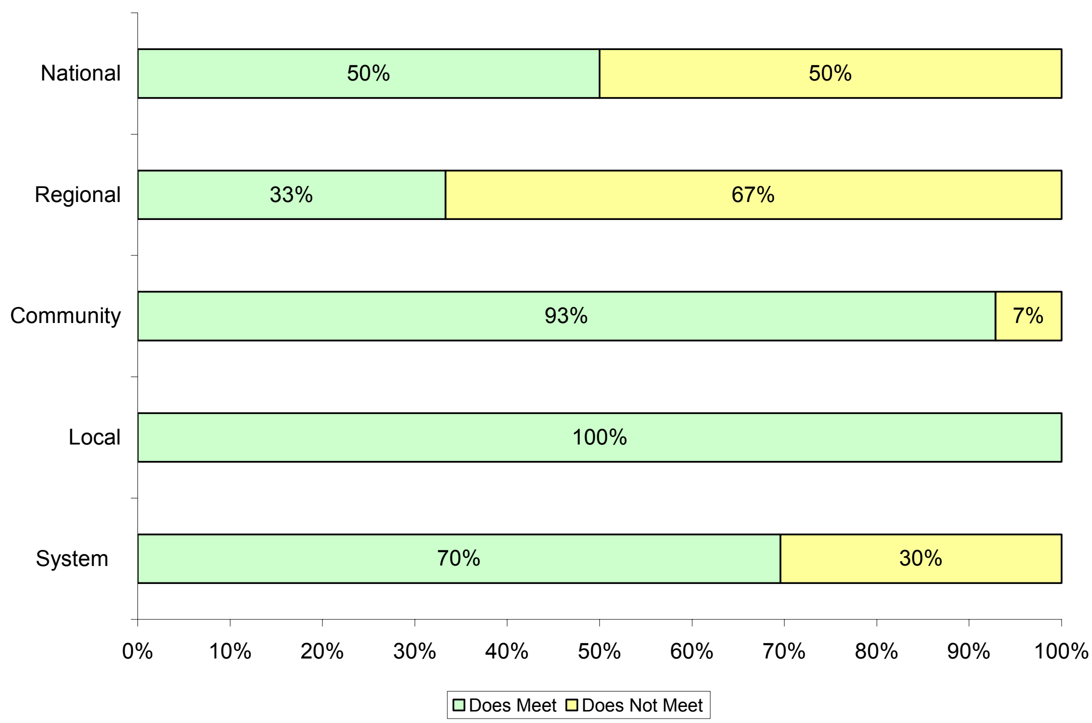
Each airport in the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS) is encouraged by the FAA to meet all applicable design and development standards. The most demanding aircraft that operates at the airport on a regular basis with at least 500 takeoffs and landings a year determines each airport's individual design standards and is known as the design or critical aircraft.

An airport's design standard is typically established during the development of an airport-specific master plan or airport layout plan (ALP). Each airport's design standards are related to the approach speed and the wingspan of its design aircraft. These two parameters are used to determine each airport's airport reference code (ARC); a letter, A, B, C, D, or E, is defined by the approach speed of the design aircraft, while a Roman numeral, I, II, III, IV, or V, is identified based on the wingspan of the design aircraft.

Table C-1 indicates by airport role, the objective, and whether or not each airport currently meets its minimum facility standard for the ARC objective. (Note: All tables are located at the conclusion of the text for this chapter.) Facilities needed to address current and future shortfalls will be identified in a later chapter of this document.

Chart C-2 shows that for the ARC objectives, 50 percent of the National, 33 percent of Regional, 93 percent of Community, and 100 percent of Local airports currently meet their ARC objective. Seventy percent of all system airports now meet the System Plan's ARC objective. It is important to note that airports that are not included in the NPIAS are not required to meet FAA standards, however, the FAA standards have been developed to promote the safe and orderly development of all airports and provide a reference point regarding facility development at all airports.

Chart C-2
Current Performance
Airports meeting minimum Facility Standards – ARC Objectives



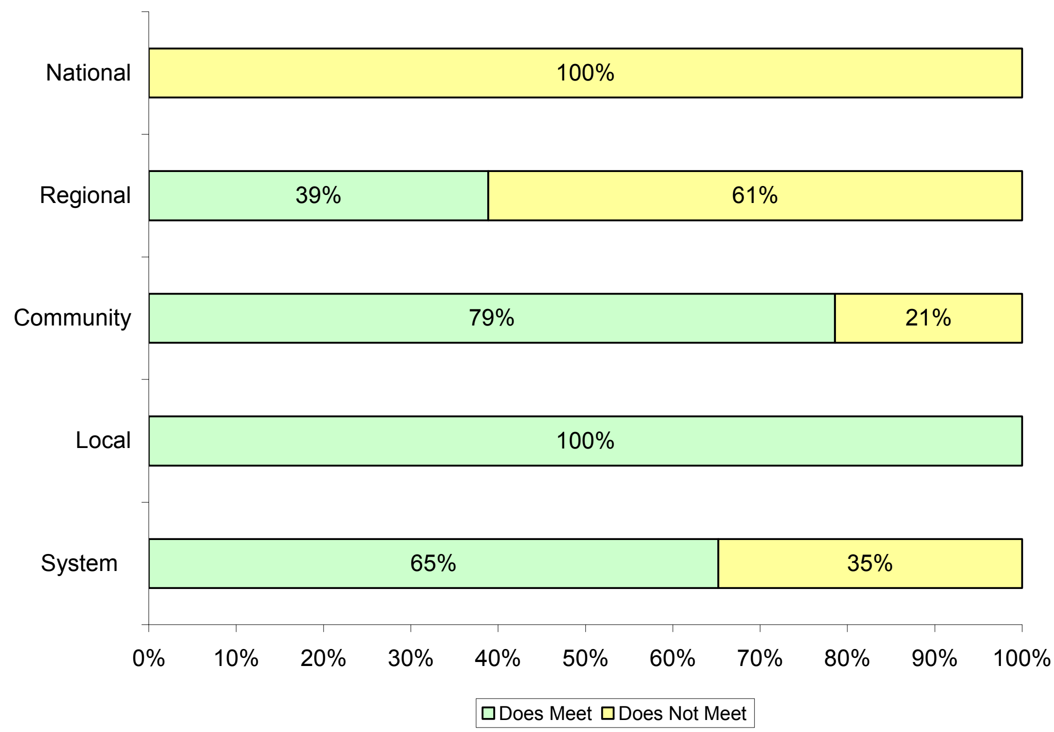
Source: UDOA, Wilbur Smith Associates, 2006

Runway Length

Adequate runway facilities, especially runway lengths, are important components of an aviation system. Facility and service objectives were developed for each of the four classification levels based on the types of aircraft anticipated to operate at airports in these classifications. In this analysis, the ability of the existing system to meet the identified objective minimum for primary runway length was examined using each airport's respective ARC and their role. An analysis of the primary runway length for each airport is presented in **Table C-2**.

As shown in **Chart C-3**, 63 percent of the system airports meet the minimum primary runway length objectives for their respective role. None of the National, 39 percent of Regional, and 71 percent of Community airports currently meet their runway length objectives. While Local airports are only required to maintain their existing runway length, it should be noted that lengths range from 2,900 feet to 6,600 feet. The System Plan set minimum primary runway lengths as a basis for evaluation. It is important to note that runway length requirements are determined based on factors such as mean maximum daily temperature during the hottest month and the elevation of the airport. Airports that exceed the minimum primary runway length are recommended to maintain the additional length, as determined to be necessary.

Chart C-3
Current Performance
Airports meeting minimum Facility Standards – Runway Length



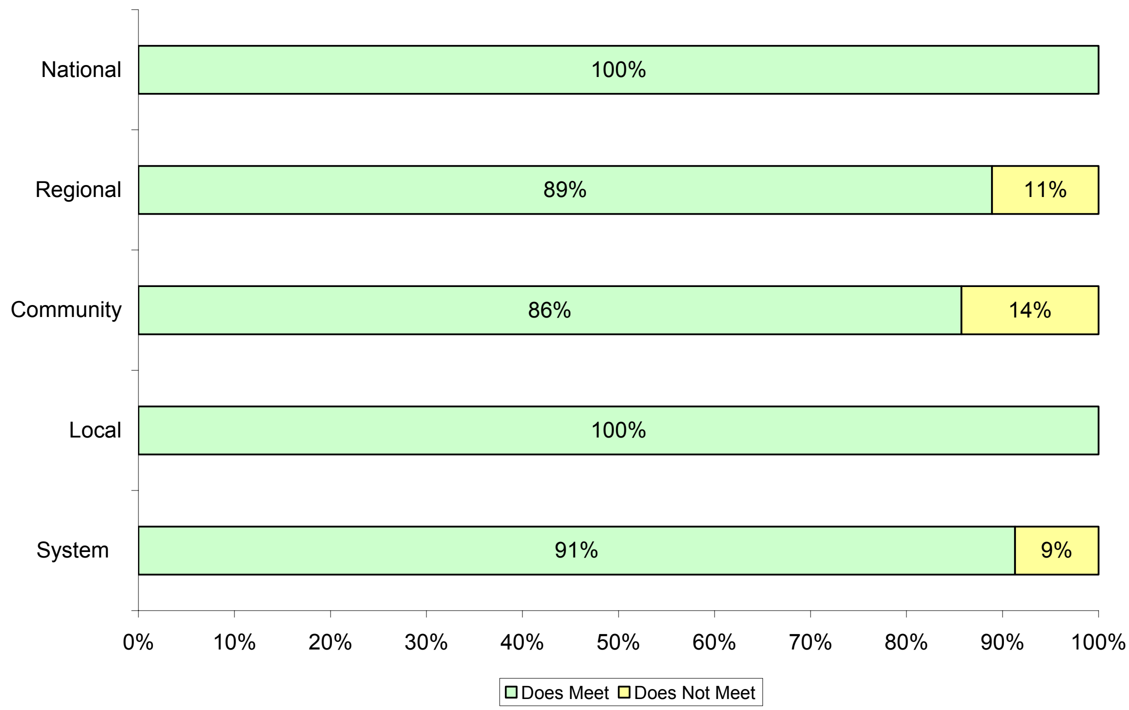
Source: UDOA, Wilbur Smith Associates, 2006

Runway Width

Another important component to the runway system is the width of the primary runway. It is important for runways to have adequate width that meet the minimum facility standards established as part of this study and meet FAA design standards. **Table C-3** shows each role's objective and whether or not each airport meets its facility and service objectives for runway width.

As shown in **Chart C-4**, over 90 percent of the system airports meet the primary runway width objectives for their respective role. One hundred percent of National, 89 percent of Regional, and 86 percent of Community airports currently meet their runway width objectives. It should be noted that the objective for Local airports is to maintain their existing runway width.

Chart C-4
Current Performance
Airports meeting minimum Facility Standards – Runway Width



Source: UDOA, Wilbur Smith Associates, 2006

Runway Strength

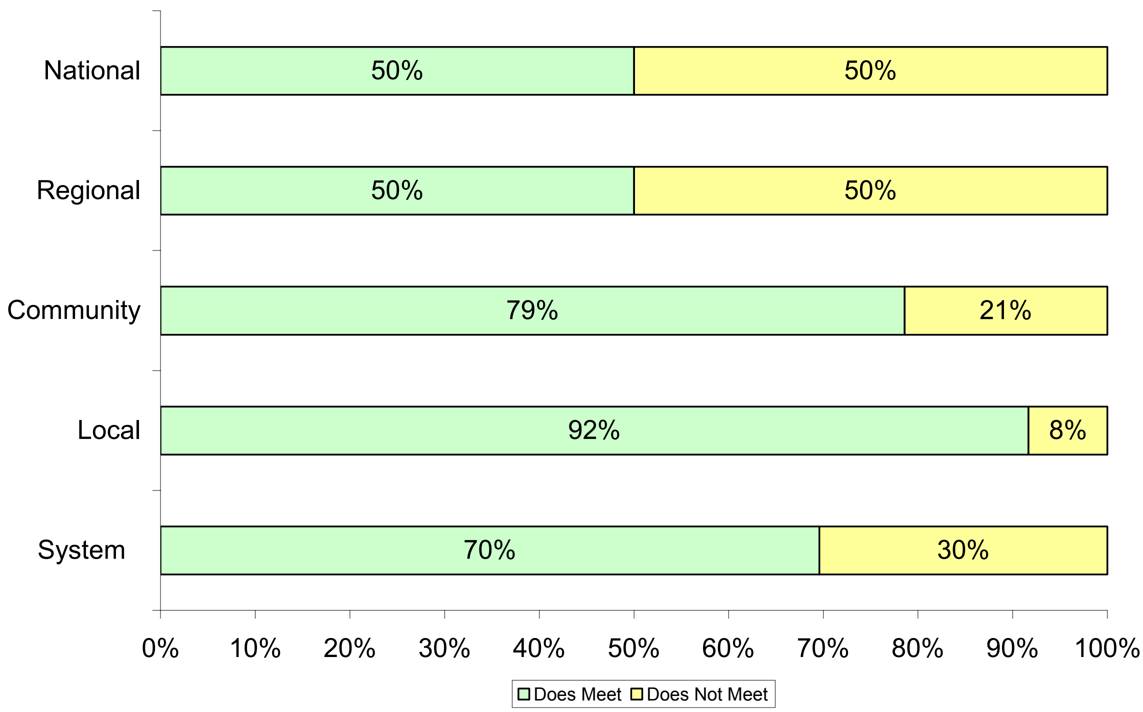
The strength of runway pavement determines weight of aircraft that may or operate on a specific runway. Runway pavements are designed to sustain continuous aircraft operations up to the published weight bearing capacity, however, runways are capable of supporting infrequent aircraft operations in excess of the published pavement strength. Runway strengthening, in most cases, depending upon the condition and structure of the existing runway, can be accomplished by a runway overlay. The runway pavement strength is classified according to aircraft landing gear configuration, which is as follows:

- Single wheel landing gear (SW)
- Dual wheel landing gear (DW)

An analysis of the primary runway strength for each airport is presented in **Table C-4**.

As shown in **Chart C-5**, 70 percent of the system airports meet the minimum primary runway strength objectives for their respective role. Fifty percent of the National, 50 percent of Regional, 79 percent of Community, and 92 percent of Local airports currently meet their runway strength objectives.

Chart C-5
Current Performance
Airports meeting minimum Facility Standards – Runway Strength

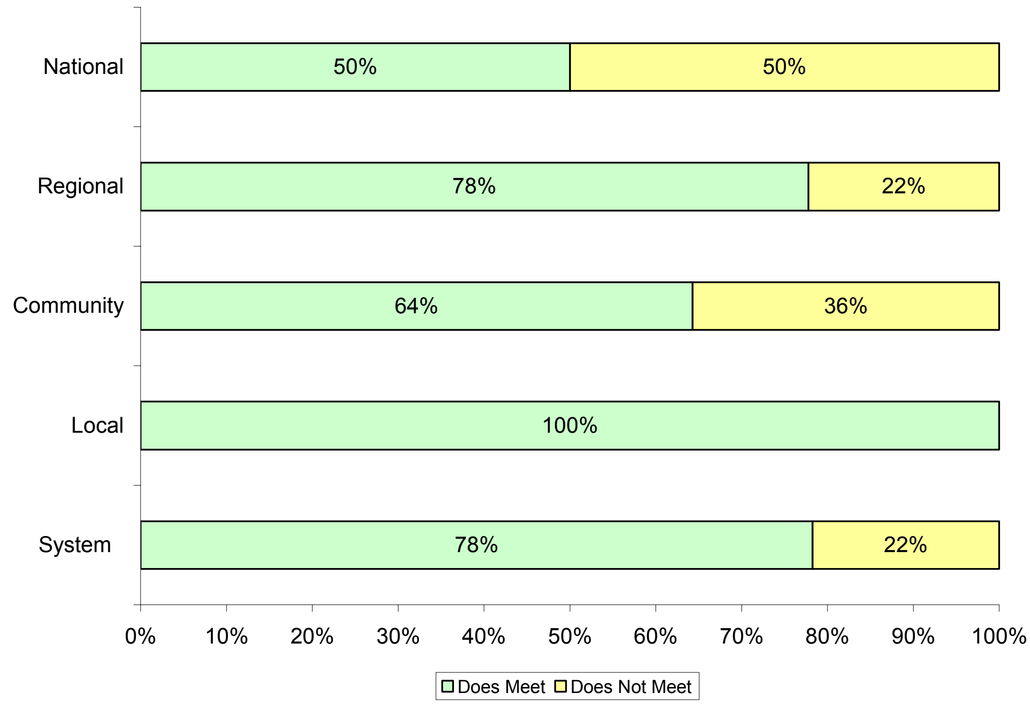


Taxiway

Taxiways are constructed to facilitate aircraft movements to and from the runway system. Strategically placed taxiway exits permit aircraft to clear the runway after landing and significantly increase the runway capacity. Some taxiways are necessary simply to provide access between the apron and runway, whereas other taxiways become needed as activity increases and safer and more efficient use of the airfield is required. Airports meeting their respective facility objective for taxiway type are shown in **Table C-5**.

Chart C-6 shows that currently, 50 percent of National, 78 percent of Regional, 64 percent of Community, and 100 percent of Local airports currently meet their taxiway objectives. Seventy-eight percent of all system airports now meet the System Plan's taxiway objective.

Chart C-6
Current Performance
Airports meeting minimum Facility Standards – Taxiway



Source: UDOA, Wilbur Smith Associates, 2006

Navigational Aid

Precision approach systems provide electronic horizontal and vertical information to aircraft during their approach to and landing at an airport. These systems allow aircraft to locate an airport and land on a specific runway during periods of reduced visibility and/or inclement weather. Operators of the most demanding general aviation aircraft, including business aircraft, typically prefer to operate at airports with precision approaches, in part due to their reliability during periods of inclement weather. Additionally, a precision approach minimizes the time that airports are closed because of poor visibility. This reduces delays, rerouting of aircraft, and ground travel times associated with not being able to access the most convenient airport.

Similar to precision approaches, non-precision approaches provide electronic information to aircraft during their approach to and landing at an airport. In general, non-precision approach systems provide horizontal guidance with relation to a specific runway at an airport. Some of these systems do provide vertical guidance or glide slope information to aircraft although it should be noted that most do not. While not as advanced or expensive to install and maintain as precision approaches, non-precision approaches support airport operations during periods of reduced visibility and inclement weather when visual approaches are not possible. Non-precision approaches also provide additional reliability to aircraft operators. Airports were evaluated based on the type of the most demanding approach available/published. The following categories were used:

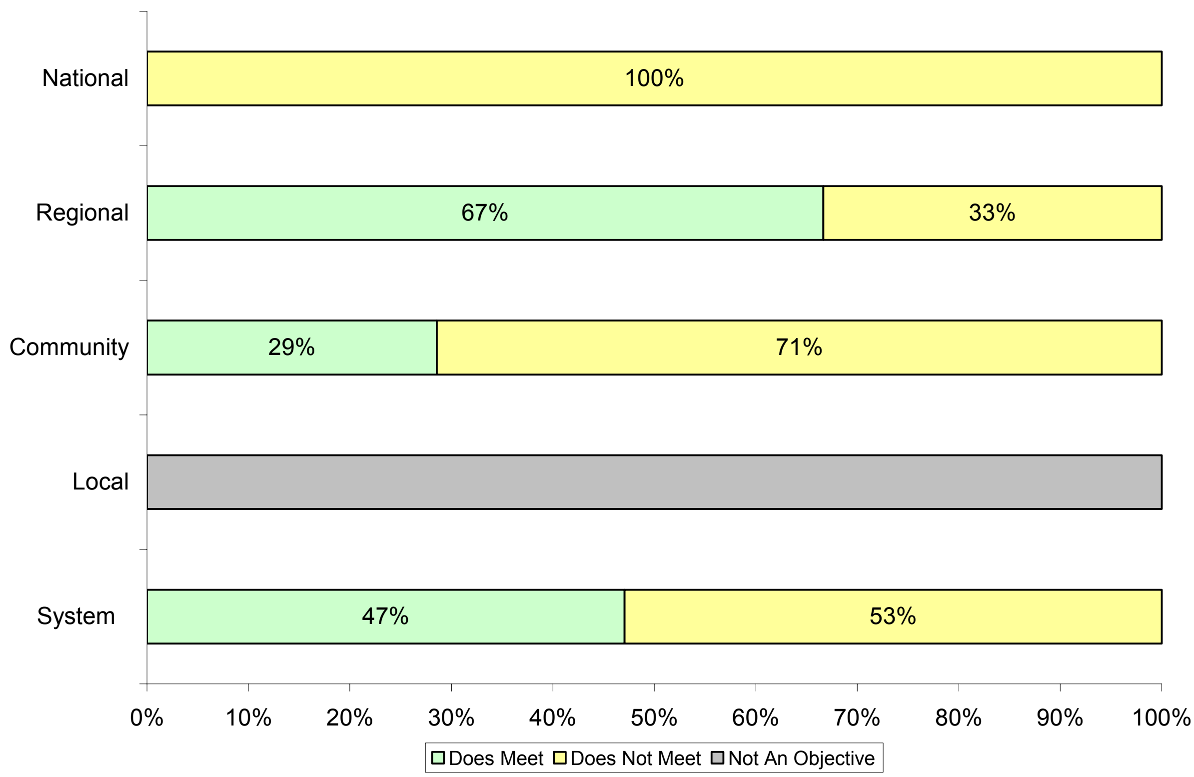
- Precision Approach
- Non-Precision Straight-In Approach
- Non-Precision Approach
- Visual Approach

Examples of non-precision approaches include very high frequency omni-directional radio (VOR), global positioning systems (GPS), localizer (LOC), and non-directional radio beacon (NDB). Additionally, in the coming years more airports will be able to benefit from a precision approach with near ILS descent and visibility minimums. These new instrument approaches are referred to as Approach Procedures with Vertical Guidance (APV) and are derived from the Wide Area Augmentation System (WAAS) technology which is a based on Global Positioning Satellite (GPS) navigation. Lateral Precision with Vertical Guidance (LPV) approaches rely on space-based satellite signals rather than land-based facilities, precluding terrain interference. APV/LPV approaches currently provide approach descent minimums to 250 feet above the runway elevation, with lower descent minimums expected to begin being published in 2007.

Table C-6 lists the Utah airports that currently report having an instrument approach to at least one end of their primary runway. Local airports are only required to provide a visual approach.

As shown in **Chart C-7**, only 47 percent of airports currently meet their navigational aid objective. None of the National airports meet their objective of a precision approach, while 67 percent of Regional and 29 percent of Community airports currently meet their respective objectives. According to the facility and service objectives that have been set, it is not an objective that Local airports provide an instrument approach. However, it should be noted that Duchesne Municipal and Huntington airports currently have non-precision approaches on their primary runways.

Chart C-7
Current Performance
Airports meeting minimum Facility Standards – Navigational Aid

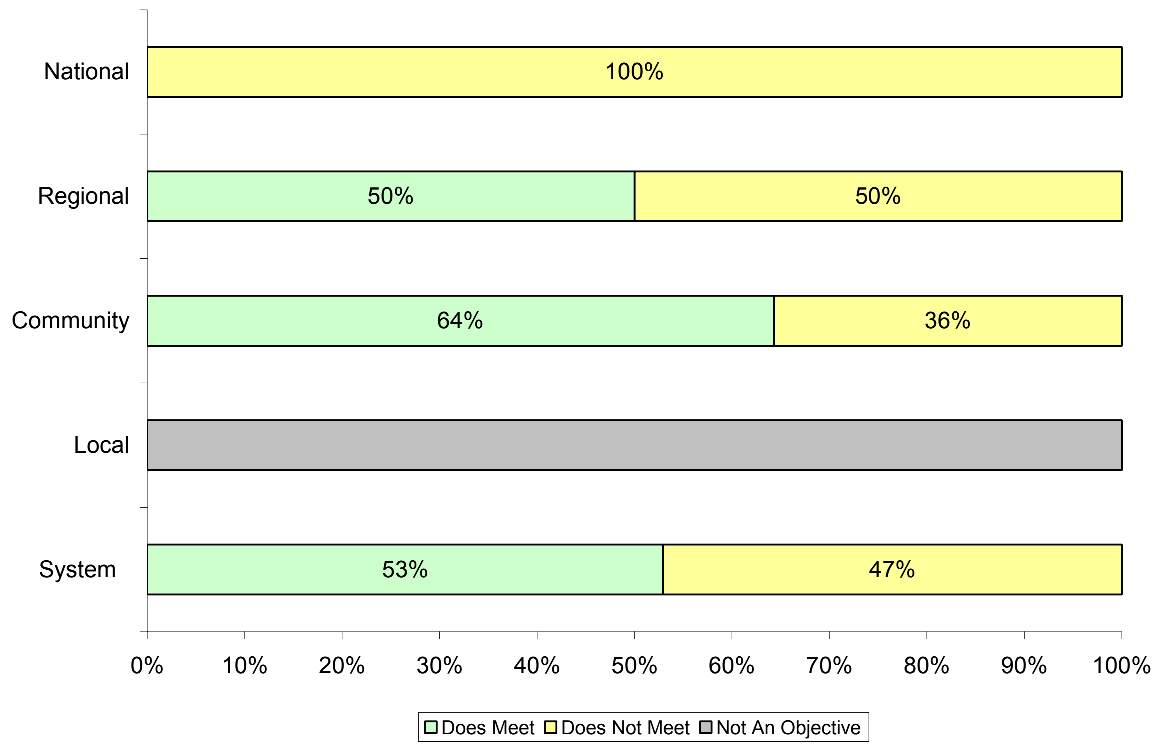


Visual Aids

Various visual aids provide navigational assistance to aircraft arriving and departing Utah's airports. Further, visual aids provide support to non-precision and precision approach aids, such as Medium Intensity Approach Lighting Systems with Runway Alignment Indicators (MALSR), Visual Approach Slope Indicators (VASI), Precision Approach Path Indicators (PAPI), and Runway End Identifier Lights (REIL). Due to the age and difficulty in getting parts and maintaining VASIs, it is recommended that all existing VASIs be replaced over time with newer PAPIs. National airports are recommended to have MALRS and Generic Visual Glideslope Indicators (GVGI) which include VASIs and PAPIs. Regional and Community airports are recommended to provide GVGIs and REILs. Local airports are not required to have visual aids. **Table C-7** shows which airports currently meet their objectives for visual aids. It is important to note that if an airport does not meet all of its visual aid objectives it is recognized as not meeting the benchmark in totality.

As shown in **Chart C-8,** 53 percent of all system airports currently meet the visual aids objectives benchmark. None of the National airports meet their visual aid objectives and require installing a MALSR. Fifty percent of Regional and 64 percent of Community airports currently meet their objectives. While it is not an objective for Local airports to have visual aids, it should be noted that Duchesne Municipal and Halls Crossing airports both have PAPIs.

Chart C-8
Current Performance
Airports meeting minimum Facility Standards – Visual Aids



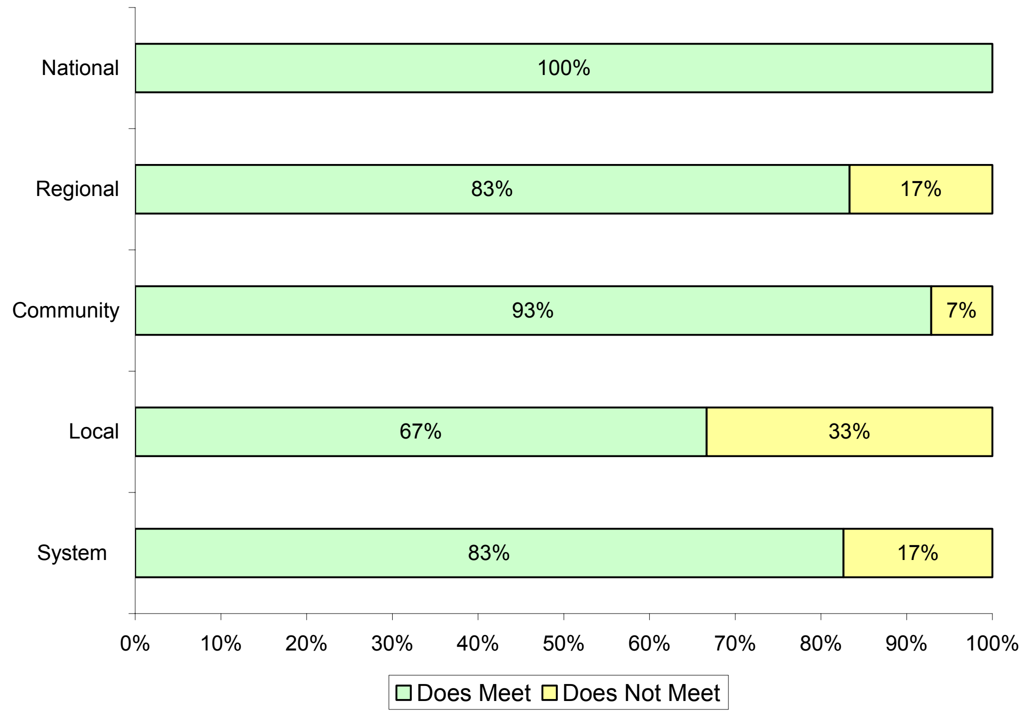
Source: UDOA, Wilbur Smith Associates, 2006

Lighting

Runway lights are used to outline the edges of runways during periods of darkness or restricted visibility conditions. These light systems are classified according to the intensity or brightness they are capable of producing: High Intensity Runway Lights (HIRL), Medium Intensity Runway Lights (MIRL), Low Intensity Runway Lights (LIRL), and reflectors. Lighted visual aids are used by pilots to locate airports from the air during the day when daylight is limited. All airports are required to provide a lighted wind cone and a segmented circle, as well as a rotating beacon. It should be noted that in order to "meet" this benchmark, airports must meet both their runway lighting objective as well as provide lighted visual aids. **Table C-8** indicates which airports are currently meeting their respective lighting objective.

As shown in **Chart C-9**, 100 percent of National, 83 percent of Regional, 93 percent of Community, and 67 percent of Local airports currently meet their lighting benchmark. Eighty-three percent of system airports meet their respective objectives.

Chart C-9
Current Performance
Airports meeting minimum Facility Standards – Lighting



Source: UDOA, Wilbur Smith Associates, 2006

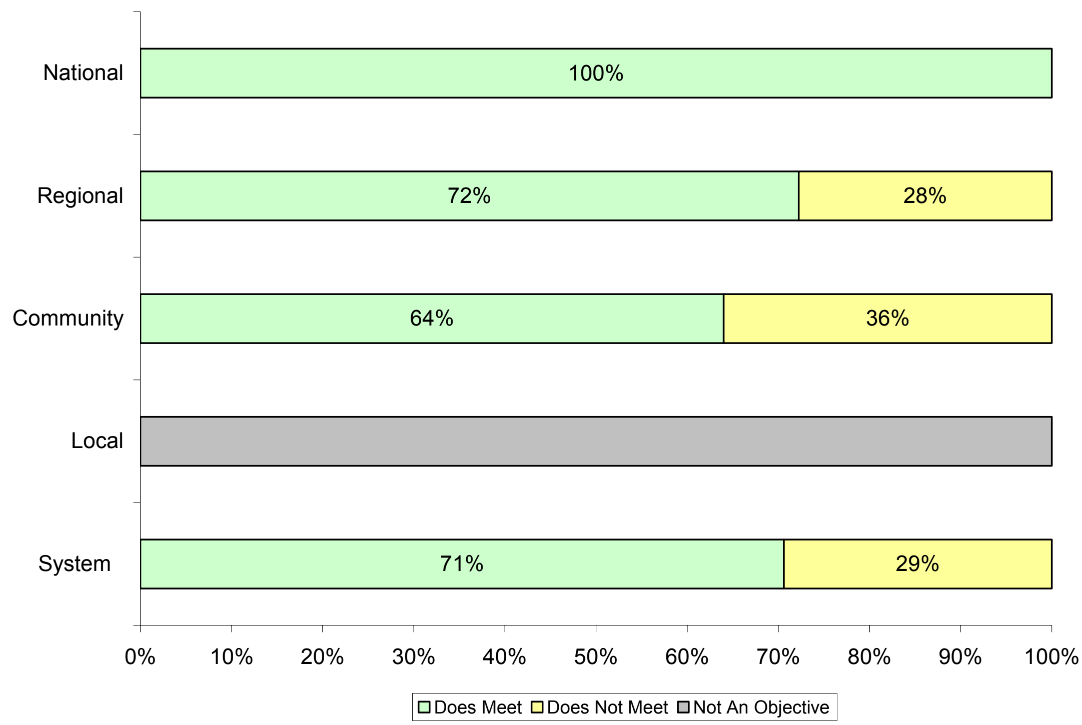
Weather

On-site weather reporting equipment at an airport complements the facility's precision or non-precision approach capabilities, as well as promoting an increased safety margin during periods of inclement or changing weather. By providing on-site weather reporting equipment, pilots are ensured sufficient information related to weather conditions at their destination airport, as well as other potential backup airports, to make informed decisions regarding their operations.

For this objective, those airports that currently have an operational automated surface observing system (ASOS), an automated weather observing system (AWOS), DigiWx, or Super Unicom systems were identified. **Table C-9** indicates which airports, by role, are currently meeting their objective.

Chart C-10 shows that 71 percent of airports that are required to have an on-site weather reporting system currently meet their objective. Although Local airports are not required to provide weather service on-site, the Duchesne Municipal, and Huntington Municipal airports both have automated weather reporting capability.

Chart C-10
Current Performance
Airports meeting minimum Facility Standards – Weather



Source: UDOA, Wilbur Smith Associates, 2006

LANDSIDE FACILITIES

Landside facilities and services contribute significantly to the development of an airport and its attractiveness. Hangar storage and apron parking are key elements in determining the number of aircraft that can be accommodated at the airport. An FBO, which provides various services like fuel and maintenance; rental cars; and auto parking play a vital role at the airport by attracting general aviation users and facilitating their passage. Facilities and services objectives described in the following two sections include the following:

- Services
  - Phone
  - Restroom
  - Fixed Base Operator (FBO)
  - Maintenance Facilities and Hangar

  - Rental Car
  - Perimeter Fencing and Controlled Access
- Facilities
  - Terminal
  - Hangars
  - Apron
  - Auto Parking

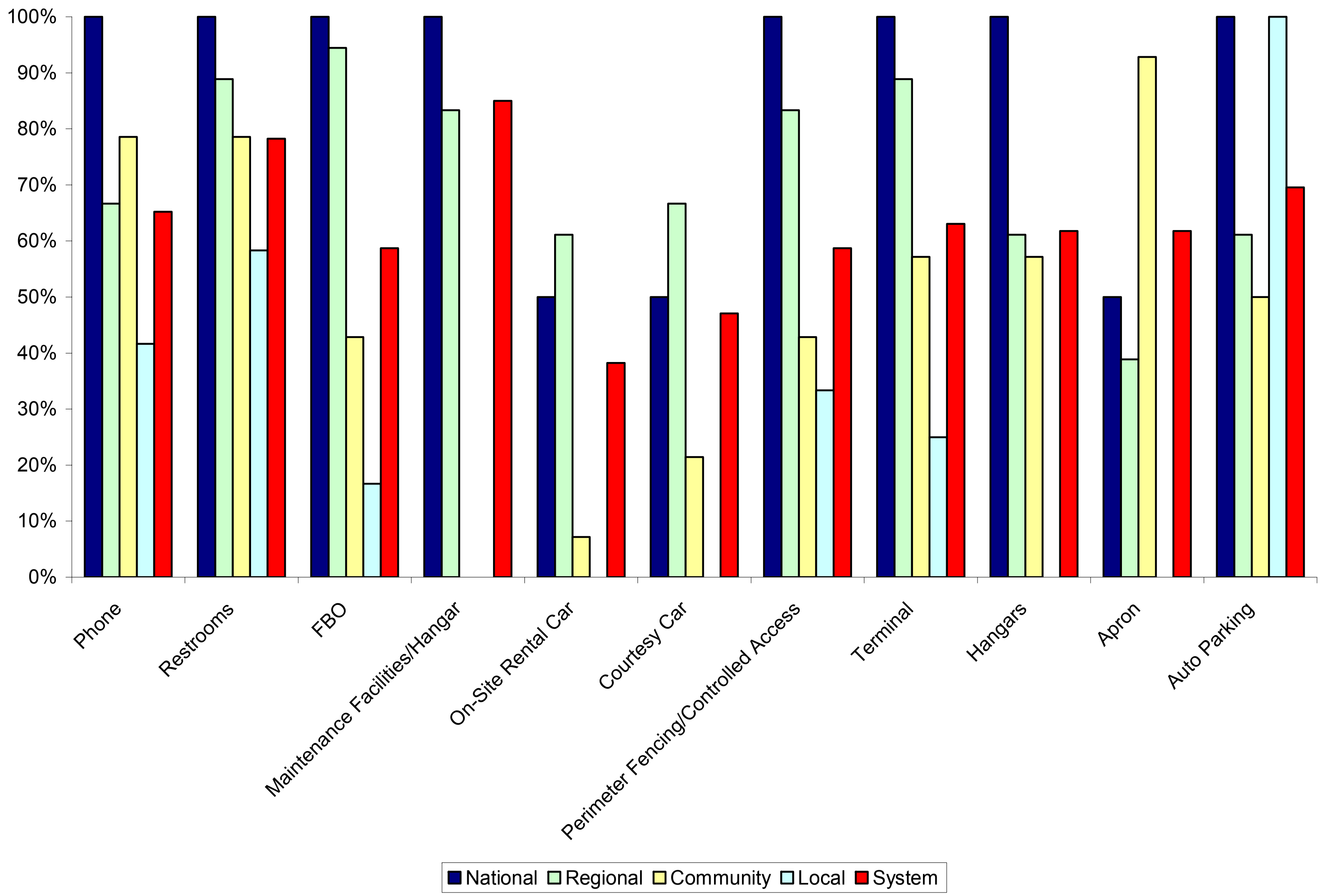
Chart C-11 summarizes the system's compliance for each landside objective.

Services

Services which are available to local pilots and tenants, as well as transient pilots are often expected necessities while others are essential for security. Basic services that are typically welcomed at airports by pilots include local and/or emergency phone service and restrooms. The presence of an FBO which provides aviation services at an airport is a service provided to both local and transient users. Typical FBO services include but are not limited to aeronautical services such as fuel sales, flying instruction, charter flights, and aircraft maintenance. Coupled with an FBO, a designated maintenance facility and/or hangar is an important service that airports can provide that is beneficial to all vested members of the aviation community whether on the local, regional, or state level. This service is yet another mechanism that airports use to be self-sufficient while conducting business and adding jobs to the economic base of the local community, region, and state. Additionally, when aircraft owners fly into an airport either for business or discretionary purposes, it is often important for them to have access to transportation services. Users may need or require on-site rental car services, while at other times, off-site rental car services or a courtesy/loaner car are acceptable to meet this demand. Perimeter fencing and controlled access gating both protects users from wildlife incursions as well as secures areas of the airfield from unlawful activity. **Table C-10** indicates which airports are currently meeting their respective landside service objectives. It is important to note that if an airport does not meet all of its landside service objectives it is recognized as not meeting the objective in totality.

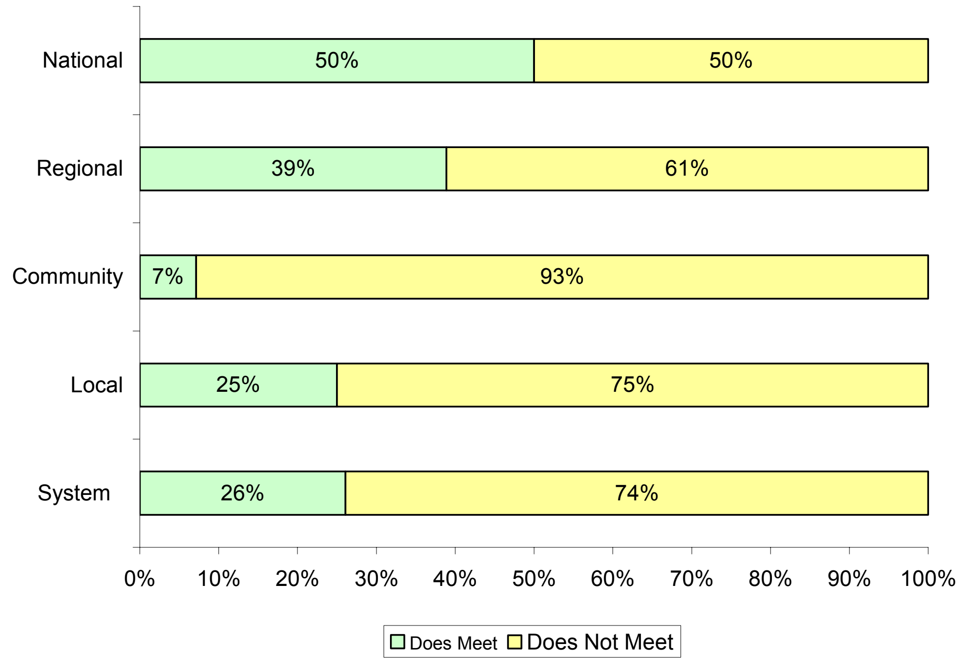
Chart C-12 shows that only 26 percent of all system airports meet their respective landside service objectives. While 74 percent of airports do not meet all of the applicable objectives for their role, it is worth noting that the majority of these airports are only deficient by one or two services. Landside services needed to address current shortfalls will be identified in a subsequent section of this document.

Chart C-11
Landside Service Compliance Summary



Source: UDOA, Wilbur Smith Associates, 2006

Chart C-12
Current Performance
Airports meeting minimum Facility Standards – Landside Services



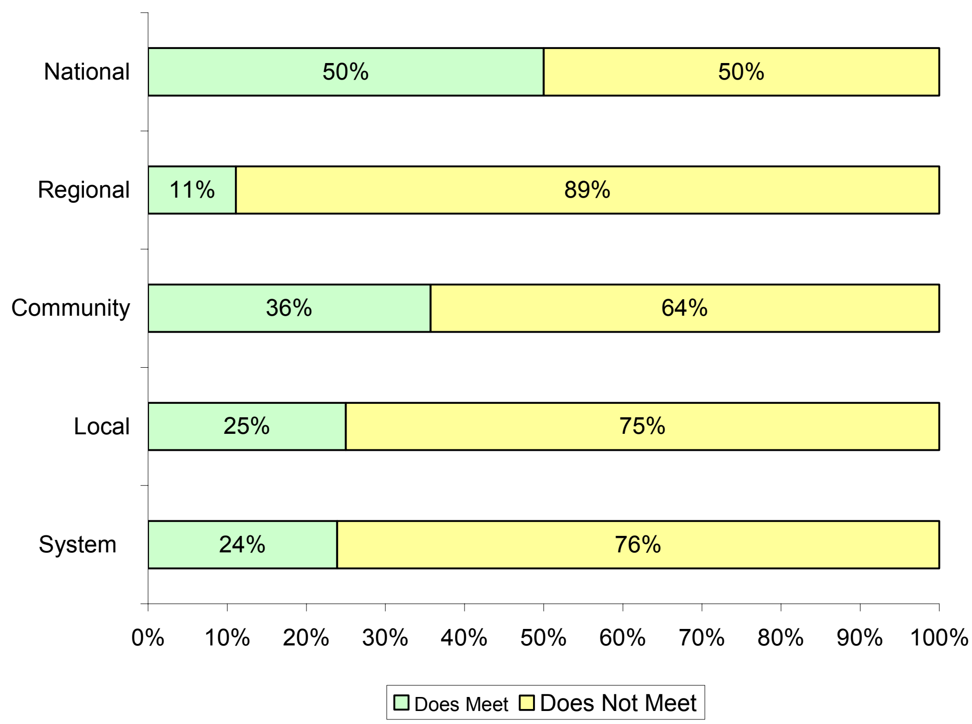
Source: UDOA, Wilbur Smith Associates, 2006

Facilities

Landside facilities are important infrastructure elements of an airport and vital economic catalysts for both airport and its community. A terminal building is typically seen as both an airport's and community's "welcome center" when pilots and users arrive by aircraft. General aviation terminals serve different roles depending on the complexity of the airport. At many airports, the terminal may house the FBO, a pilots' lounge, a weather information area, showers, and a observation area. Similarly, the need to provide covered storage for based aircraft varies by airport, climate, aircraft cost, security, and other considerations. Nationally, there continues to be trend for owners of general aviation aircraft to seek covered storage. Until recently, hangar development did not qualify for federal grants and the need for hangar development often lagged behind the airport's ability to provide such facilities. In addition to third-party developers, such as an airport's FBO, federal grants may now be available for hangar development. In addition to providing covered storage for based aircraft there is the need to ensure adequate apron space for storing local and transient aircraft that can not be housed in hangars. Regardless of how an individual reaches an airport, there is an inherent need for auto parking whether it is for employees of aviation businesses to park their personal vehicles, aircraft owners that wish to park their car before taking their aircraft for a flight, or visitors and business users arriving via aircraft that will rent a car or utilize a courtesy car to go into town. As a result of the events on September 11, 2001, new security guidelines for commercial and general aviation airports may result in restricted auto parking in aircraft movement areas. Airports should therefore plan to provide auto parking in designated areas away from hangars and other areas of aircraft movement. **Table C-11** indicates which airports are currently meeting their respective landside service objectives.

Chart C-13 shows that less than 25 percent of all system airports meet their respective landside facility objectives. Similar to the landside service objectives, most airports that do not meet all of the applicable objectives are deficient by one or two facilities. Again, it should be noted that if an airport does not meet all of its applicable landside facility objectives it is recognized as not meeting the objective in totality.

Chart C-13
Current Performance
Airports meeting minimum Facility Standards – Landside Facilities



Source: UDOA, Wilbur Smith Associates, 2006

AIRSIDE FACILITIES

Using system performance measures and benchmarks established at the on-set of the UCASP, this chapter provides valuable insight in to how well Utah's system of public airports is currently performing. The analysis completed in this chapter lays the ground work for establishing where the Utah system is adequate or deficient. By reviewing and evaluating the system's current performance, this portion of the system plan also helps to reveal where overlaps in the system may be occurring. For Utah to have an airport system to meet its future transportation and economic needs it should ideally have a system that serves both aviation demand and areas of the state that are expected to experience the greatest increases in population and employment. Chapter 6 of the system plan builds on the evaluation completed in this chapter and considers where changes in airport roles should be considered. Additionally, facilities and services needed to address current and future shortfalls will be identified in a subsequent chapter of this document.

Table C-1
Current Performance
Airports meeting minimum Facility Standards – ARC

Associated City	Airport	Existing ARC	Does Meet	Does Not Meet
National (C-III or Design Aircraft)				
St George	St George Municipal	B-II		✈
Wendover	Wendover	C-III	✈	
Regional (C-II or Greater)				
Bountiful	Skypark	B-I		✈
Brigham City	Brigham City Municipal	B-II		✈
Cedar City	Cedar City Regional	C-IV	✈	
Heber	Heber City Municipal	B-II		✈
Hurricane	Hurricane	B-I		✈
Kanab	Kanab Municipal	B-II		✈
Logan	Logan-Cache	C-II	✈	
Moab	Moab-Canyonlands Field	B-II		✈
Morgan	Morgan County	B-I		✈
Nephi	Nephi Municipal	C-II	✈	
Ogden	Ogden-Hinckley Municipal	C-III	✈	
Price	Price-Carbon County	C-II	✈	
Provo	Provo Municipal	C-III	✈	
Richfield	Richfield Municipal	B-II		✈
Salt Lake City	Salt Lake City Muni 2	B-II		✈
Spanish Fork	Spanish Fork-Springville	B-II		✈
Tooele	Tooele Valley Airport	B-II		✈
Vernal	Vernal	B-II		✈
Community (B-II or Greater)				
Beaver	Beaver Municipal	B-II	✈	
Blanding	Blanding Municipal	B-II	✈	
Bryce Canyon	Bryce Canyon	B-II	✈	

Table C-1, Continued
Current Performance
Airports meeting minimum Facility Standards – ARC

Associated City	Airport	Existing ARC	Does Meet	Does Not Meet
Community (B-II or Greater)				
Delta	Delta Municipal	B-II	✈	
Eagle Mountain	Jake Garn	A-I		✈
Escalante	Escalante Municipal	B-II	✈	
Fillmore	Fillmore	B-II	✈	
Green River	Green River	B-II	✈	
Manti	Manti-Ephraim	B-II	✈	
Milford	Milford Municipal	B-II	✈	
Monticello	Monticello	B-II	✈	
Panguitch	Panguitch Municipal	B-II	✈	
Parowan	Parowan	B-II	✈	
Roosevelt	Roosevelt Municipal	B-II	✈	
Local (A-I)				
Bluff	Bluff Airport	A-I	✈	
Duchesne	Duchesne Municipal	B-I	✈	
Dutch John	Dutch John	B-I	✈	
Glen Canyon Natl. Rec. Area	Bullfrog Basin	A-I	✈	
Halls Crossing	Halls Crossing	A/B-I	✈	
Hanksville	Hanksville	B-II	✈	
Huntington	Huntington Municipal	A-I	✈	
Junction	Junction	A-I	✈	
Loa	Wayne Wonderland	B-II	✈	
Manila	Manila	B-I	✈	
Mount Pleasant	Mount Pleasant	B-I	✈	
Salina	Salina-Gunnison	B-I	✈	

Source: UDOA, Wilbur Smith Associates, 2006

Table C-2
Current Performance
Airports meeting minimum Facility Standards – Runway Length

Associated City	Airport	Existing Primary Runway Length (in feet)	Recommended FAA Runway Length (in feet)*	Does Meet	Does Not Meet
National (Accommodate 75% of large aircraft @ 90% useful load)					
St George	St George Municipal	6,606	8,600		✈
Wendover	Wendover	8,000	8,600		✈
Regional (Accommodate 75% of large aircraft @ 60% useful load)					
Bountiful	Skypark	4,700	6,220		✈
Brigham City	Brigham City Municipal	8,900	6,350	✈	
Cedar City	Cedar City Regional	8,653	6,960	✈	
Heber	Heber City Municipal	6,898	6,960		✈
Hurricane	Hurricane	3,410	6,110		✈
Kanab	Kanab Municipal	6,193	6,600		✈
Logan	Logan-Cache	9,095	6,330	✈	
Moab	Moab-Canyonlands Field	7,100	6,760	✈	
Morgan	Morgan County	3,904	6,640		✈
Nephi	Nephi Municipal	6,300	6,840		✈
Ogden	Ogden-Hinckley Municipal	8,103	6,480	✈	
Price	Price-Carbon County	8,300	7,070	✈	
Provo	Provo Municipal	8,599	6,490	✈	
Richfield	Richfield Municipal	6,600	6,800		✈
Salt Lake City	Salt Lake City Muni 2	5,860	6,540		✈
Spanish Fork	Spanish Fork-Springville	5,700	6,530		✈
Tooele	Tooele Valley Airport	6,100	6,510		✈
Vernal	Vernal	6,201	6,790		✈
Community (Accommodate 75% of small planes)					
Beaver	Beaver Municipal	5,100	5,070	✈	
Blanding	Blanding Municipal	6,000	5,100	✈	
Bryce Canyon	Bryce Canyon	7,400	6,420	✈	

Table C-2, Continued
Current Performance
Airports meeting minimum Facility Standards – Runway Length

Associated City	Airport	Existing Primary Runway Length (in feet)	Recommended FAA Runway Length (in feet)*	Does Meet	Does Not Meet
Community (Accommodate 75% of small planes)					
Delta	Delta Municipal	6,011	4,540	✈	
Eagle Mountain	Jake Garn	2,500	4,620		✈
Escalante	Escalante Municipal	5,025	5,000	✈	
Fillmore	Fillmore	5,050	4,690	✈	
Green River	Green River	5,600	4,120	✈	
Manti	Manti-Ephraim	4,584	4,790		✈
Milford	Milford Municipal	5,000	4,700	✈	
Monticello	Monticello	4,817	6,030		✈
Panguitch	Panguitch Municipal	5,700	5,730	✈	
Parowan	Parowan	5,000	5,130	✈	
Roosevelt	Roosevelt Municipal	6,500	4,740	✈	
Local (Maintain Existing)					
Bluff	Bluff Airport	2,900		✈	
Duchesne	Duchesne Municipal	5,800		✈	
Dutch John	Dutch John	6,600		✈	
Glen Canyon Natl. Rec. Area	Bullfrog Basin	3,500		✈	
Halls Crossing	Halls Crossing	5,700		✈	
Hanksville	Hanksville	5,675		✈	
Huntington	Huntington Municipal	4,048		✈	
Junction	Junction	4,505		✈	
Loa	Wayne Wonderland	5,900		✈	
Manila	Manila	5,300		✈	
Mount Pleasant	Mount Pleasant	4,260		✈	
Salina	Salina-Gunnison	3,815		✈	

Note: FAA runway length recommendations are based on the FAA Runway Design Program v. 4.2D and the parameters of each role's objective.
Source: UDOA, Wilbur Smith Associates, 2006

Table C-3
Current Performance
Airports meeting minimum Facility Standards – Runway Width

Associated City	Airport	ARC	Existing Primary Runway Width (in feet)	Does Meet	Does Not Meet
National (To meet ARC)					
St George	St George Municipal	B-II	100	✈	
Wendover	Wendover	C-III	150	✈	
Regional (To meet ARC)					
Bountiful	Skypark	B-I	70	✈	
Brigham City	Brigham City Municipal	B-II	100	✈	
Cedar City	Cedar City Regional	C-IV	150	✈	
Heber	Heber City Municipal	B-II	75	✈	
Hurricane	Hurricane	B-I	40		✈
Kanab	Kanab Municipal	B-II	75	✈	
Logan	Logan-Cache	C-II	100	✈	
Moab	Moab-Canyonlands Field	B-II	75	✈	
Morgan	Morgan County	B-I	50		✈
Nephi	Nephi Municipal	C-II	100	✈	
Ogden	Ogden-Hinckley Municipal	C-III	150	✈	
Price	Price-Carbon County	C-II	100	✈	
Provo	Provo Municipal	C-III	150	✈	
Richfield	Richfield Municipal	B-II	75	✈	
Salt Lake City	Salt Lake City Muni 2	B-II	100	✈	
Spanish Fork	Spanish Fork-Springville	B-II	100	✈	
Tooele	Tooele Valley Airport	B-II	100	✈	
Vernal	Vernal	B-II	150	✈	
Community (Minimum 75 feet)					
Beaver	Beaver Municipal	B-II	75	✈	
Blanding	Blanding Municipal	B-II	75	✈	
Bryce Canyon	Bryce Canyon	B-II	75	✈	

Table C-3, Continued
Airports meeting minimum Facility Standards – Runway Width

Associated City	Airport	ARC	Existing Primary Runway Width (in feet)	Does Meet	Does Not Meet
Community (Minimum 75 feet)					
Delta	Delta Municipal	B-II	75	✈	
Eagle Mountain	Jake Garn	A-I	50		✈
Escalante	Escalante Municipal	B-II	60		✈
Fillmore	Fillmore	B-II	75	✈	
Green River	Green River	B-II	75	✈	
Manti	Manti-Ephraim	B-II	75	✈	
Milford	Milford Municipal	B-II	75	✈	
Monticello	Monticello	B-II	75	✈	
Panguitch	Panguitch Municipal	B-II	75	✈	
Parowan	Parowan	B-II	75	✈	
Roosevelt	Roosevelt Municipal	B-II	75	✈	
Local (Maintain Existing)					
Bluff	Bluff Airport	A-I	45	✈	
Duchesne	Duchesne Municipal	B-I	60	✈	
Dutch John	Dutch John	B-II	60	✈	
Glen Canyon Natl. Rec. Area	Bullfrog Basin	A-I	40	✈	
Halls Crossing	Halls Crossing	A/B-I	60	✈	
Hanksville	Hanksville	B-II	75	✈	
Huntington	Huntington Municipal	A-I	60	✈	
Junction	Junction	A-I	60	✈	
Loa	Wayne Wonderland	B-II	75	✈	
Manila	Manila	B-I	60	✈	
Mount Pleasant	Mount Pleasant	B-II	60	✈	
Salina	Salina-Gunnison	B-II	60	✈	

Source: UDOA, Wilbur Smith Associates, 2006

Table C-4
Current Performance
Airports meeting minimum Facility Standards – Runway Strength

Associated City	Airport	Existing Primary Runway Strength (in 000s)	Does Meet	Does Not Meet
National (Single-wheel gear-60,000 lbs; Equivalent for dual wheel)				
St George	St George Municipal	26		✈
Wendover	Wendover	75	✈	
Regional (Single-wheel gear-30,000 lbs; Equivalent for dual wheel)				
Bountiful	Skypark	12		✈
Brigham City	Brigham City Municipal	30	✈	
Cedar City	Cedar City Regional	75	✈	
Heber	Heber City Municipal	12		✈
Hurricane	Hurricane	3		✈
Kanab	Kanab Municipal	12.5		✈
Logan	Logan-Cache	60	✈	
Moab	Moab-Canyonlands Field	25		✈
Morgan	Morgan County	12.5		✈
Nephi	Nephi Municipal	30	✈	
Ogden	Ogden-Hinckley Municipal	120	✈	
Price	Price-Carbon County	30	✈	
Provo	Provo Municipal	75	✈	
Richfield	Richfield Municipal	19		✈
Salt Lake City	Salt Lake City Muni 2	12.5		✈
Spanish Fork	Spanish Fork-Springville	12.5		✈
Tooele	Tooele Valley Airport	30	✈	
Vernal	Vernal	45	✈	
Community (Single-wheel gear-12,500 lbs)				
Beaver	Beaver Municipal	12.5	✈	
Blanding	Blanding Municipal	27	✈	
Bryce Canyon	Bryce Canyon	30	✈	

Table C-4, Continued
Current Performance
Airports meeting minimum Facility Standards – Runway Strength

Associated City	Airport	Existing Primary Runway Strength (in 000s)	Does Meet	Does Not Meet
Community (Single-wheel gear-12,500 lbs)				
Delta	Delta Municipal	21	✈	
Eagle Mountain	Jake Garn	4		✈
Escalante	Escalante Municipal	12.5	✈	
Fillmore	Fillmore	12.5	✈	
Green River	Green River	12	✈	
Manti	Manti-Ephraim	24	✈	
Milford	Milford Municipal	26	✈	
Monticello	Monticello	11		✈
Panguitch	Panguitch Municipal	20	✈	
Parowan	Parowan	30	✈	
Roosevelt	Roosevelt Municipal	12.5	✈	
Local (Single-wheel gear-12,500 lbs)				
Bluff	Bluff Airport	12.5	✈	
Duchesne	Duchesne Municipal	12.5	✈	
Dutch John	Dutch John	12.5	✈	
Glen Canyon Natl. Rec. Area	Bullfrog Basin	12.5	✈	
Halls Crossing	Halls Crossing	12.5	✈	
Hanksville	Hanksville	12.5	✈	
Huntington	Huntington Municipal	12.5	✈	
Junction	Junction	12.5	✈	
Loa	Wayne Wonderland	16	✈	
Manila	Manila	26	✈	
Mount Pleasant	Mount Pleasant	12.5	✈	
Salina	Salina-Gunnison	6		✈

Source: UDOA, Wilbur Smith Associates, 2006

Table C-5
Current Performance
Airports meeting minimum Facility Standards – Taxiway

Associated City	Airport	Existing Taxiway Type	Does Meet	Does Not Meet
National (Full Parallel)				
St George	St George Municipal	Full Parallel	✈	
Wendover	Wendover	Partial Parallel		✈
Regional (Partial Parallel)				
Bountiful	Skypark	Partial Parallel	✈	
Brigham City	Brigham City Municipal	Full Parallel	✈	
Cedar City	Cedar City Regional	Full Parallel	✈	
Heber	Heber City Municipal	Full Parallel	✈	
Hurricane	Hurricane	Turnarounds and Connector		✈
Kanab	Kanab Municipal	Turnarounds and Connector		✈
Logan	Logan-Cache	Full Parallel	✈	
Moab	Moab-Canyonlands Field	Full Parallel	✈	
Morgan	Morgan County	Turnarounds and Connector		✈
Nephi	Nephi Municipal	Full Parallel	✈	
Ogden	Ogden-Hinckley Municipal	Partial Parallel	✈	
Price	Price-Carbon County	Partial Parallel	✈	
Provo	Provo Municipal	Full Parallel	✈	
Richfield	Richfield Municipal	Turnaround/Connector		✈
Salt Lake City	Salt Lake City Muni 2	Full Parallel	✈	
Spanish Fork	Spanish Fork-Springville	Full Parallel	✈	
Tooele	Tooele Valley Airport	Full Parallel	✈	
Vernal	Vernal	Full Parallel	✈	
Community (Turnarounds and Connectors)				
Beaver	Beaver Municipal	Turnarounds and Connector	✈	
Blanding	Blanding Municipal	Turnarounds and Connector	✈	
Bryce Canyon	Bryce Canyon	Full Parallel	✈	

Table C-5, Continued
Current Performance
Airports meeting minimum Facility Standards – Taxiway

Associated City	Airport	Existing Taxiway Type	Does Meet	Does Not Meet
Community (Turnarounds and Connectors)				
Delta	Delta Municipal	Partial Parallel	✈	
Eagle Mountain	Jake Garn	Connector		✈
Escalante	Escalante Municipal	Connector		✈
Fillmore	Fillmore	Connector		✈
Green River	Green River	Partial Parallel	✈	
Manti	Manti-Ephraim	Connector		✈
Milford	Milford Municipal	Connector		✈
Monticello	Monticello	Full Parallel	✈	
Panguitch	Panguitch Municipal	Turnarounds and Connector	✈	
Parowan	Parowan	Full Parallel	✈	
Roosevelt	Roosevelt Municipal	Turnarounds and Connector	✈	
Local (Connectors and/or Turnarounds)				
Bluff	Bluff Airport	Connector	✈	
Duchesne	Duchesne Municipal	Connector	✈	
Dutch John	Dutch John	Connector	✈	
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Connector	✈	
Halls Crossing	Halls Crossing	Full Parallel	✈	
Hanksville	Hanksville	Connector	✈	
Huntington	Huntington Municipal	Turnaround/Connector	✈	
Junction	Junction	Connector	✈	
Loa	Wayne Wonderland	Connector	✈	
Manila	Manila	Connector	✈	
Mount Pleasant	Mount Pleasant	Turnaround/Connector	✈	
Salina	Salina-Gunnison	Turnaround/Connector	✈	

Source: UDOA, Wilbur Smith Associates, 2006

Table C-6
Current Performance
Airports meeting minimum Facility Standards – Navigational Aid

Associated City	Airport	Existing Approach Type	Does Meet	Does Not Meet
National (Precision Approach)				
St George	St George Municipal	NPI Straight-In		✈
Wendover	Wendover	NPI Straight-In		✈
Regional (Non-Precision Straight-In Approach)				
Bountiful	Skypark	Visual		✈
Brigham City	Brigham City Municipal	NPI Straight-In	✈	
Cedar City	Cedar City Regional	Precision	✈	
Heber	Heber City Municipal	NPI		✈
Hurricane	Hurricane	Visual		✈
Kanab	Kanab Municipal	NPI Straight-In	✈	
Logan	Logan-Cache	NPI Straight-In	✈	
Moab	Moab-Canyonlands Field	NPI Straight-In	✈	
Morgan	Morgan County	Visual		✈
Nephi	Nephi Municipal	Visual		✈
Ogden	Ogden-Hinckley Municipal	Precision	✈	
Price	Price-Carbon County	NPI Straight-In	✈	
Provo	Provo Municipal	Precision	✈	
Richfield	Richfield Municipal	NPI Straight-In	✈	
Salt Lake City	Salt Lake City Muni 2	NPI Straight-In	✈	
Spanish Fork	Spanish Fork-Springville	Visual		✈
Tooele	Tooele Valley Airport	NPI Straight-In	✈	
Vernal	Vernal	NPI Straight-In	✈	
Community (Non-Precision Approach)				
Beaver	Beaver Municipal	Visual		✈
Blanding	Blanding Municipal	NPI Straight-In	✈	
Bryce Canyon	Bryce Canyon	Visual		✈

Table C-6, Continued
Current Performance
Airports meeting minimum Facility Standards – Navigational Aid

Associated City	Airport	Existing Approach Type	Does Meet	Does Not Meet
Community (Non-Precision Approach)				
Delta	Delta Municipal	NPI Straight-In	✈	
Eagle Mountain	Jake Garn	Visual		✈
Escalante	Escalante Municipal	Visual		✈
Fillmore	Fillmore	Visual		✈
Green River	Green River	Visual		✈
Manti	Manti-Ephraim	Visual		✈
Milford	Milford Municipal	NPI	✈	
Monticello	Monticello	Visual		✈
Panguitch	Panguitch Municipal	Visual		✈
Parowan	Parowan	Visual		✈
Roosevelt	Roosevelt Municipal	NPI Straight-In	✈	
Local (Not An Objective)				
Bluff	Bluff Airport	Visual		
Duchesne	Duchesne Municipal	NPI		
Dutch John	Dutch John	Visual		
Glen Canyon Natl. Rec. Area	Bullfrog Basin	Visual		
Halls Crossing	Halls Crossing	Visual		
Hanksville	Hanksville	Visual		
Huntington	Huntington Municipal	NPI		
Junction	Junction	Visual		
Loa	Wayne Wonderland	Visual		
Manila	Manila	Visual		
Mount Pleasant	Mount Pleasant	Visual		
Salina	Salina-Gunnison	Visual		

Note: NPI – Non-Precision Approach
Source: UDOA, Wilbur Smith Associates, 2006

Table C-7
Current Performance
Airports meeting minimum Facility Standards – Visual Aid

Associated City	Airport	Existing Visual Aids	Does Meet	Does Not Meet
National (MALSR and GVGIs)				
St George	St George Municipal	PAPIs, REILs		✈
Wendover	Wendover	PAPIs, REILs		✈
Regional (GVGIs and REILs)				
Bountiful	Skypark	VASIs, REILs	✈	
Brigham City	Brigham City Municipal	VASIs, REILs	✈	
Cedar City	Cedar City Regional	MALSR, PAPI	✈	
Heber	Heber City Municipal	PAPI		✈
Hurricane	Hurricane	None		✈
Kanab	Kanab Municipal	PAPI		✈
Logan	Logan-Cache	PAPIs, REILs	✈	
Moab	Moab-Canyonlands Field	PAPIs, REILs	✈	
Morgan	Morgan County	None		✈
Nephi	Nephi Municipal	PAPI, REIL	✈	
Ogden	Ogden-Hinckley Municipal	MALS, PAPI	✈	
Price	Price-Carbon County	VASI, REIL	✈	
Provo	Provo Municipal	PAPIs, REIL	✈	
Richfield	Richfield Municipal	PAPIs		✈
Salt Lake City	Salt Lake City Muni 2	PAPIs, REILs	✈	
Spanish Fork	Spanish Fork-Springville	PAPIs		✈
Tooele	Tooele Valley Airport	PAPIs, REILs	✈	
Vernal	Vernal	PAPIs, REILs	✈	
Community (GVGIs and REILs)				
Beaver	Beaver Municipal	PAPIs, REILs	✈	
Blanding	Blanding Municipal	PAPIs, REILs	✈	
Bryce Canyon	Bryce Canyon	PAPIs, REILs	✈	

Table C-7, Continued
Current Performance
Airports meeting minimum Facility Standards – Visual Aid

Associated City	Airport	Existing Visual Aids	Does Meet	Does Not Meet
Community (GVGIs and REILs)				
Delta	Delta Municipal	PAPIs, REILs	✈	
Eagle Mountain	Jake Garn	None		✈
Escalante	Escalante Municipal	None		✈
Fillmore	Fillmore	PAPIs, REILs	✈	
Green River	Green River	PAPIs, REILs	✈	
Manti	Manti-Ephraim	PAPIs		✈
Milford	Milford Municipal	VASIs, REILs	✈	
Monticello	Monticello	PAPIs		✈
Panguitch	Panguitch Municipal	PAPIs		✈
Parowan	Parowan	PAPIs, REILs	✈	
Roosevelt	Roosevelt Municipal	PAPIs, REILs	✈	
Local (Not An Objective)				
Bluff	Bluff Airport	None		
Duchesne	Duchesne Municipal	PAPIs		
Dutch John	Dutch John	None		
Glen Canyon Natl. Rec. Area	Bullfrog Basin	None		
Halls Crossing	Halls Crossing	PAPIs		
Hanksville	Hanksville	None		
Huntington	Huntington Municipal	None		
Junction	Junction	None		
Loa	Wayne Wonderland	None		
Manila	Manila	None		
Mount Pleasant	Mount Pleasant	None		
Salina	Salina-Gunnison	None		

Source: UDOA, Wilbur Smith Associates, 2006

Table C-8
Current Performance
Airports meeting minimum Facility Standards – Lighting

Associated City	Airport	Existing Lighting	Existing Beacon	Existing Windsock	Does Meet	Does Not Meet
National (MIRL, Beacon, and Windsock)						
St George	St George Municipal	MIRL	✓	✓	✈	
Wendover	Wendover	MIRL	✓	✓	✈	
Regional (MIRL, Beacon, and Windsock)						
Bountiful	Skypark	LIRL	✓	✓		✈
Brigham City	Brigham City Municipal	MIRL	✓	✓	✈	
Cedar City	Cedar City Regional	MIRL	✓	✓	✈	
Heber	Heber City Municipal	MIRL	✓	✓	✈	
Hurricane	Hurricane	None		✓		✈
Kanab	Kanab Municipal	MIRL	✓	✓	✈	
Logan	Logan-Cache	MIRL	✓	✓	✈	
Moab	Moab-Canyonlands Field	MIRL	✓	✓	✈	
Morgan	Morgan County	None		✓		✈
Nephi	Nephi Municipal	MIRL	✓	✓	✈	
Ogden	Ogden-Hinckley Municipal	HIRL	✓	✓	✈	
Price	Price-Carbon County	MIRL	✓	✓	✈	
Provo	Provo Municipal	HIRL	✓	✓	✈	
Richfield	Richfield Municipal	MIRL	✓	✓	✈	
Salt Lake City	Salt Lake City Muni 2	MIRL	✓	✓	✈	
Spanish Fork	Spanish Fork-Springville	MIRL	✓	✓	✈	
Tooele	Tooele Valley Airport	MIRL	✓	✓	✈	
Vernal	Vernal	MIRL	✓	✓	✈	
Community (MIRL, Beacon, and Windsock)						
Beaver	Beaver Municipal	MIRL	✓	✓	✈	
Blanding	Blanding Municipal	MIRL	✓	✓	✈	
Bryce Canyon	Bryce Canyon	MIRL	✓	✓	✈	

Table C-8, Continued
Current Performance
Airports meeting minimum Facility Standards – Lighting

Associated City	Airport	Existing Lighting	Existing Beacon	Existing Windsock	Does Meet	Does Not Meet
Community (MIRL, Beacon, and Windsock)						
Delta	Delta Municipal	MIRL	✓	✓	✈	
Eagle Mountain	Jake Garn	None		✓		✈
Escalante	Escalante Municipal	MIRL	✓	✓	✈	
Fillmore	Fillmore	MIRL	✓	✓	✈	
Green River	Green River	MIRL	✓	✓	✈	
Manti	Manti-Ephraim	MIRL	✓	✓	✈	
Milford	Milford Municipal	MIRL	✓	✓	✈	
Monticello	Monticello	MIRL	✓	✓	✈	
Panguitch	Panguitch Municipal	MIRL	✓	✓	✈	
Parowan	Parowan	MIRL	✓	✓	✈	
Roosevelt	Roosevelt Municipal	MIRL	✓	✓	✈	
Local (Reflectors or LIRL, Beacon, and Windsock)						
Bluff	Bluff Airport	None		✓		✈
Duchesne	Duchesne Municipal	MIRL	✓	✓	✈	
Dutch John	Dutch John	None		✓		✈
Glen Canyon Natl. Rec. Area	Bullfrog Basin	LIRL*		✓		✈
Halls Crossing	Halls Crossing	MIRL	✓	✓	✈	
Hanksville	Hanksville	Non-Standard	✓	✓	✈	
Huntington	Huntington Municipal	MIRL	✓	✓	✈	
Junction	Junction	None		✓		✈
Loa	Wayne Wonderland	MIRL	✓	✓	✈	
Manila	Manila	MIRL	✓	✓	✈	
Mount Pleasant	Mount Pleasant	MIRL	✓	✓	✈	
Salina	Salina-Gunnison	MIRL	✓	✓	✈	

Source: UDOA, Wilbur Smith Associates, 2006

Table C-9
Current Performance
Airports meeting minimum Facility Standards – Weather

Associated City	Airport	Existing Weather Reporting	Does Meet	Does Not Meet
National (Automated Weather Reporting)				
St George	St George Municipal	AWOS III	✈	
Wendover	Wendover	AWOS III	✈	
Regional (Automated Weather Reporting)				
Bountiful	Skypark	None		✈
Brigham City	Brigham City Municipal	AWOS III	✈	
Cedar City	Cedar City Regional	ASOS	✈	
Heber	Heber City Municipal	AWOS III	✈	
Hurricane	Hurricane	None		✈
Kanab	Kanab Municipal	AWOS III	✈	
Logan	Logan-Cache	ASOS	✈	
Moab	Moab-Canyonlands Field	ASOS	✈	
Morgan	Morgan County	None		✈
Nephi	Nephi Municipal	None		✈
Ogden	Ogden-Hinckley Municipal	ASOS, LAWRS	✈	
Price	Price-Carbon County	ASOS	✈	
Provo	Provo Municipal	AWOS III	✈	
Richfield	Richfield Municipal	AWOS III	✈	
Salt Lake City	Salt Lake City Muni 2	AWOS III	✈	
Spanish Fork	Spanish Fork-Springville	None		✈
Tooele	Tooele Valley Airport	AWOS III	✈	
Vernal	Vernal	ASOS	✈	
Community (Automated Weather Reporting)				
Beaver	Beaver Municipal	AWOS III	✈	
Blanding	Blanding Municipal	AWOS III	✈	
Bryce Canyon	Bryce Canyon	ASOS	✈	

Table C-9, Continued
Current Performance
Airports meeting minimum Facility Standards – Weather

Associated City	Airport	Existing Weather Reporting	Does Meet	Does Not Meet
Community (Automated Weather Reporting)				
Delta	Delta Municipal	AWOS III	✈	
Eagle Mountain	Jake Garn	None		✈
Escalante	Escalante Municipal	None		✈
Fillmore	Fillmore	AWOS III	✈	
Green River	Green River	None		✈
Manti	Manti-Ephraim	None		✈
Milford	Milford Municipal	ASOS	✈	
Monticello	Monticello	DigiWx	✈	
Panguitch	Panguitch Municipal	AWOS III	✈	
Parowan	Parowan	None		✈
Roosevelt	Roosevelt Municipal	AWOS III	✈	
Local (Not An Objective)				
Bluff	Bluff Airport	None		
Duchesne	Duchesne Municipal	Super Unicom		
Dutch John	Dutch John	None		
Glen Canyon Natl. Rec. Area	Bullfrog Basin	None		
Halls Crossing	Halls Crossing	None		
Hanksville	Hanksville	None		
Huntington	Huntington Municipal	DigiWx		
Junction	Junction	None		
Loa	Wayne Wonderland	None		
Manila	Manila	None		
Mount Pleasant	Mount Pleasant	None		
Salina	Salina-Gunnison	None		

Source: UDOA, Wilbur Smith Associates, 2006

Table C-10
Current Performance
Airports meeting minimum Facility Standards – Landside Services

Associated City	Airport	Existing Services							Does Meet	Does Not Meet
		Phone	Restrooms	FBO	Maintenance Facilities/ Hangar	On-Site Rental Car	Courtesy Car Available	Perimeter Fencing/ Controlled Access		
National (Phone, Restrooms, Full Service FBO, Full Service Maintenance Facilities/Hangar, On-Site Rental Car, Perimeter Fencing, and Controlled Access)										
St George	St George Municipal	✓	✓	✓	✓	✓		O	✈	
Wendover	Wendover	✓	✓	✓	✓		✓	O		✈
Regional (Phone, Restrooms, Limited Service FBO, Limited Service Maintenance Facilities, On-Site Courtesy Car, and Perimeter Fencing)										
Bountiful	Skypark	✓	✓	✓	✓	✓	✓	O		✈
Brigham City	Brigham City Municipal	✓	✓	✓	✓		✓	O	✈	
Cedar City	Cedar City Regional	✓	✓	✓	✓	✓	✓	O	✈	
Heber	Heber City Municipal	✓	✓	✓	✓	✓	✓	✓		✈
Hurricane	Hurricane		✓	✓	✓					✈
Kanab	Kanab Municipal	✓	✓	✓	✓		✓			✈
Logan	Logan-Cache	✓	✓	✓	✓	✓	✓	✓		✈
Moab	Moab-Canyonlands Field	✓	✓	✓	✓	✓	✓	O	✈	
Morgan	Morgan County			✓						✈
Nephi	Nephi Municipal	✓	✓	✓				✓		✈
Ogden	Ogden-Hinckley Municipal	✓	✓	✓	✓	✓	✓	✓	✈	
Price	Price-Carbon County	✓	✓	✓	✓		✓	O	✈	
Provo	Provo Municipal	✓	✓	✓	✓	✓	✓	O	✈	
Richfield	Richfield Municipal	✓	✓	✓	✓	✓	✓	O	✈	
Salt Lake City	Salt Lake City Muni 2	✓	✓	✓	✓	✓	✓	✓	✈	
Spanish Fork	Spanish Fork-Springville	✓	✓	✓	✓	✓	✓	O	✈	
Tooele	Tooele Valley Airport	✓	✓					✓		✈
Vernal	Vernal	✓	✓	✓	✓	✓	✓	✓	✈	

Table C-10 - Continued
Current Performance
Airports meeting minimum Facility Standards – Landside Services

Associated City	Airport	Existing Services: Phone	Restrooms	FBO	Maintenance Facilities/ Hangar	On-Site Rental Car	Courtesy Car Available	Perimeter Fencing/ Controlled Access	Does Meet	Does Not Meet
Community (Phone, Restrooms, Limited Service FBO, On-Site Courtesy Car, and Perimeter Fencing)										
Beaver	Beaver Municipal	✓								✈
Blanding	Blanding Municipal	✓	✓	✓			✓	O	✈	
Bryce Canyon	Bryce Canyon	✓	✓	✓		✓		✓	✈	
Delta	Delta Municipal	✓	✓							✈
Eagle Mountain	Jake Garn									✈
Escalante	Escalante Municipal	✓	✓							✈
Fillmore	Fillmore	✓	✓	✓						✈
Green River	Green River	✓	✓	✓				O		✈
Manti	Manti-Ephraim	✓	✓					✓		✈
Milford	Milford Municipal	✓	✓	✓				✓		✈
Monticello	Monticello	✓	✓	✓			✓			✈
Panguitch	Panguitch Municipal	✓	✓					✓		✈
Parowan	Parowan		✓	✓			✓			✈
Roosevelt	Roosevelt Municipal	✓	✓	✓						✈
Local (Phone, Restrooms, and Perimeter Fencing)										
Bluff	Bluff Airport									✈
Duchesne	Duchesne Municipal	✓	✓							✈
Dutch John	Dutch John									✈
Glen Canyon Natl. Rec. Area	Bullfrog Basin		✓							✈
Halls Crossing	Halls Crossing	✓	✓	✓				O	✈	
Hanksville	Hanksville	✓	✓					✓	✈	

Table C-10, Continued
Current Performance
Airports meeting minimum Facility Standards – Landside Services

Associated City	Airport	Existing Services							Does Meet	Does Not Meet
		Phone	Restrooms	FBO	Maintenance Facilities/ Hangar	On-Site Rental Car	Courtesy Car Available	Perimeter Fencing/ Controlled Access		
Local (Phone, Restrooms, and Perimeter Fencing)										
Huntington	Huntington Municipal		✓							✈
Junction	Junction									✈
Loa	Wayne Wonderland	✓		✓				O		✈
Manila	Manila									✈
Mount Pleasant	Mount Pleasant	✓						O		✈
Salina	Salina-Gunnison		✓							✈
O = Partial Perimeter Fencing										

Source: UDOA, Wilbur Smith Associates, 2006

Table C-11, Continued
Current Performance
Airports meeting minimum Facility Standards – Landside Facilities

Associated City	Airport	Existing Facilities: Modern Terminal/Pilot's Lounge	Existing Facilities: Hangars	Existing Facilities: Apron	Existing Facilities: Auto Parking	Does Meet	Does Not Meet
National (Modern Terminal, Hangars-75% of based fleet & 25% of overnight aircraft, Apron-25% of based fleet & 75% for transient, and Auto Parking-Per MP)							
St George	St George Municipal	✓	✓		✓		✈
Wendover	Wendover	✓	✓	✓	✓	✈	
Regional (Terminal, Hangars-60% of based fleet & 25% of overnight aircraft, Apron-40% of based fleet & 50% for transient, and Auto Parking-33% of based fleet)							
Bountiful	Skypark	✓	✓		✓		✈
Brigham City	Brigham City Municipal	✓	✓				✈
Cedar City	Cedar City Regional	✓	✓	✓	✓	✈	
Heber	Heber City Municipal	✓	✓				✈
Hurricane	Hurricane	✓	✓				✈
Kanab	Kanab Municipal	✓	✓	✓	✓	✈	
Logan	Logan-Cache	✓	✓		✓		✈
Moab	Moab-Canyonlands Field	✓		✓	✓		✈
Morgan	Morgan County	✓					✈
Nephi	Nephi Municipal	✓	✓	✓			✈
Ogden	Ogden-Hinckley Municipal	✓	✓	✓	✓	✈	✈
Price	Price-Carbon County	✓		✓	✓		✈
Provo	Provo Municipal	✓	✓	✓	✓	✈	
Richfield	Richfield Municipal	✓	✓	✓	✓	✈	
Salt Lake City	Salt Lake City Muni 2	✓	✓	✓	✓	✈	✈
Spanish Fork	Spanish Fork-Springville	✓	✓				✈
Tooele	Tooele Valley Airport			✓	✓		✈
Vernal	Vernal	✓	✓	✓	✓	✈	

Table C-11, Continued
Current Performance
Airports meeting minimum Facility Standards – Landside Facilities

Associated City	Airport	Existing Facilities: Modern Terminal/Pilot's Lounge	Hangars	Apron	Auto Parking	Does Meet	Does Not Meet
Community (Hangars-50% of based fleet & 25% of overnight aircraft, Apron-50% of based fleet & 25% for transient, and Auto Parking-1 per based aircraft, Pilots Lounge)							
Beaver	Beaver Municipal		✓	✓			✈
Blanding	Blanding Municipal	✓	✓	✓	✓	✈	
Bryce Canyon	Bryce Canyon	✓		✓	✓		✈
Delta	Delta Municipal	✓	✓	✓	✓	✈	
Eagle Mountain	Jake Garn						✈
Escalante	Escalante Municipal	✓	✓	✓	✓	✈	
Fillmore	Fillmore	✓	✓	✓			✈
Green River	Green River	✓		✓	✓		✈
Manti	Manti-Ephraim	✓	✓	✓			✈
Milford	Milford Municipal	✓	✓	✓	✓	✈	
Monticello	Monticello	✓	✓	✓	✓	✈	
Panguitch	Panguitch Municipal		✓	✓	✓		✈
Parowan	Parowan	✓	✓	✓			✈
Roosevelt	Roosevelt Municipal	✓	✓	✓			✈
Local (Auto Parking and Pilots' Lounge)							
Bluff	Bluff Airport				✓		✈
Duchesne	Duchesne Municipal	✓			✓	✈	
Dutch John	Dutch John				✓		✈
Glen Canyon Natl. Rec. Area	Bullfrog Basin				✓		✈

Table C-11, Continued
Current Performance
Airports meeting minimum Facility Standards – Landside Facilities

Associated City	Airport	Existing Facilities: Modern Terminal/Pilot's Lounge	Existing Facilities: Hangars	Existing Facilities: Apron	Existing Facilities: Auto Parking	Does Meet	Does Not Meet
Local (Auto Parking and Pilots' Lounge)							
Halls Crossing	Halls Crossing	✓			✓	✈	
Hanksville	Hanksville				✓		✈
Huntington	Huntington Municipal	✓			✓	✈	
Junction	Junction				✓		✈
Loa	Wayne Wonderland				✓		✈
Manila	Manila				✓		✈
Mount Pleasant	Mount Pleasant				✓		✈
Salina	Salina-Gunnison				✓		✈

Source: UDOA, Wilbur Smith Associates, 2006

Airport Role	Airport	Runway Extension Needed	Runway Widening Needed	Pavement Strengthening Needed (000 lbs)	Taxiway Upgrade Needed	New or Upgraded Instrument Approach Needed	Visual Aid Upgrade Needed	Lighting Upgrade Needed	Automated Weather Reporting Needed	FBO Needed	Rental or Courtesy Car Needed	New or Upgraded Terminal/ Pilot Lounge Needed	New or Updated Airport Layout Plan Needed	New or Updated Master Plan Needed	Compatible Land Use Plan Needed	Need to Plan Capacity Increase
	System Percentage:	30%	9%	28%	29%	41%	47%	15%	21%	15%	41%	37%	17%	70%	54%	7%
National	St George Municipal	1,994'		60			MALSR and GVGIs									
	Wendover	600'			Full Parallel	✓	MALSR and GVGIs							✓		
Regional	Skypark							MIRL							✓	
	Brigham City Municipal											✓		✓	✓	
	Cedar City Regional													✓		
	Heber City Municipal			30		✓	GVGIs and REILs							✓	✓	
	Hurricane	2,700'	35'	12.5	Partial Parallel		GVGIs and REILs	MIRL, Beacon			✓					
	Kanab Municipal	407'		30	Partial Parallel		GVGIs and REILs								✓	
	Logan-Cache													✓	✓	✓
	Moab-Canyonlands Field			30										✓		
	Morgan County	2,736'	25'	30	Partial Parallel		GVGIs and REILs				✓				✓	
	Nephi Municipal	540'				✓	GVGIs		✓		✓		✓	✓		
	Ogden-Hinckley Municipal													✓	✓	✓
	Price-Carbon County						GVGIs							✓		
	Provo Municipal						GVGIs									✓
	Richfield Municipal	200'		30	Partial Parallel		GVGIs and REILs									
	Salt Lake City Muni 2	680'		30												
	Spanish Fork-Springville	830'		30		✓	GVGIs and REILs		✓						✓	
	Tooele Valley Airport	410'								✓	✓	✓			✓	
	Vernal	589'												✓	✓	
Community	Beaver Municipal					✓				✓	✓	✓		✓	✓	
	Blanding Municipal													✓		
	Bryce Canyon					✓							✓	✓		
	Delta Municipal									✓	✓				✓	
	Jake Garn		25'	12.5	Turnarounds	✓	GVGIs and REILs	MIRL, Beacon	✓	✓	✓	✓		✓	✓	
	Escalante Municipal		15'		Turnarounds	✓	GVGIs and REILs		✓	✓	✓	✓		✓	✓	
	Fillmore				Turnarounds	✓					✓	✓			✓	
	Green River			12.5		✓			✓		✓			✓		
	Manti-Ephraim				Turnarounds	✓	GVGIs and REILs		✓		✓	✓	✓	✓		
	Milford Municipal				Turnarounds						✓			✓	✓	
	Monticello	1,213'		12.5		✓	GVGIs and REILs							✓		
	Panguitch Municipal	30'				✓	GVGIs and REILs				✓			✓	✓	
	Parowan	130'				✓			✓			✓		✓		
	Roosevelt Municipal										✓		✓	✓		
Local	Bluff Airport							Reflectors or LIRL, Beacon				✓	✓	✓	✓	
	Duchesne Municipal													✓	✓	
	Dutch John							Reflectors or LIRL, Beacon				✓		✓	✓	
	Bullfrog Basin							Beacon				✓		✓	✓	
	Halls Crossing													✓	✓	
	Hanksville											✓	✓	✓	✓	
	Huntington Municipal															
	Junction							Reflectors or LIRL, Beacon				✓	✓	✓	✓	
	Wayne Wonderland											✓		✓	✓	
	Manila											✓		✓		
	Mount Pleasant											✓	✓		✓	
	Salina-Gunnison			12.5								✓		✓	✓	

Salt Lake City International — UCASP Role: International

Primary Generators of Demand/Outside Influences:

Population Growth
Employment Growth
Tourism

Issues/Notes:

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	322
2006 Based Multi-Engine Aircraft	69
2006 Based Jet Aircraft	17
2006 Total Operations	419,488
2006 GA Itinerant Operations	64,136
2006 Total IFR Arrivals	173,410
2006 IFR Arrivals from Outside Utah	166,244
2006 Passenger Enplanements	10,762,203

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	C-IV	Per Master Plan	None
Primary Runway Length	12,004’	Per Master Plan	None
Primary Runway Width	150’	Per Master Plan	None
Primary Runway Strength	60,000 lbs. SWG	Per Master Plan	None
Taxiway Type	Full Parallel	Per Master Plan	None
Navigational Aids	Precision Approach	Per Master Plan	None
Visual Aids	PAPIs, REILs, MALSR	Per Master Plan	None
Lighting	HIRL	Per Master Plan	None
	Beacon	Per Master Plan	None
	Windsock	Per Master Plan	None
Weather	ASOS	Per Master Plan	None

Salt Lake City International — UCASP Role: International

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	Per Master Plan	None
Maintenance Facilities/Hangar	Full Service	Per Master Plan	None
Ground Communications	Phone	Per Master Plan	None
Restrooms	Restrooms	Per Master Plan	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	Per Master Plan	None
Terminal/Pilots' Lounge	Modern Terminal	Per Master Plan	None
Aircraft Storage	275 Hangars	Per Master Plan	None
Aircraft Storage	50 Tie-downs	Per Master Plan	None
Auto Parking	3,397 Spaces	Per Master Plan	None
Fencing	Perimeter Fencing, Controlled Access	Per Master Plan	None

Project Description/Details	Total Estimated Cost
Airfield Improvements	$96,673,000
Landside Improvements	$8,832,000
Terminal Improvements	$25,072,000
Entrance/Exit Roads	$5,750,000
Radio/Communications systems	$1,500,000
General Aviation Improvements	$4,800,000
Land Acquisition	$58,000,000
Subtotal Costs	**$200,627,000**

St. George Municipal — UCASP Role: National

Primary Generators of Demand/Outside Influences:

Population Growth
Employment Growth
Tourism

Issues/Notes:
Replacement airport currently under development.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	177
2006 Based Multi-Engine Aircraft	15
2006 Based Jet Aircraft	0
2006 Total Operations	45,307
2006 GA Itinerant Operations	15,264
2006 Total IFR Arrivals	6,148
2006 IFR Arrivals from Outside Utah	2,445
2006 Passenger Enplanements	53,777

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-III or Design Aircraft	Upgrade ARC
Primary Runway Length	6,606’	Accommodate 75% of Large Aircraft at 90% Useful Load - 8,600’	Extend Runway 2,000’
Primary Runway Width	100’	To Meet ARC	Widen Runway 50’
Primary Runway Strength	26,000 lbs.	60,000 lbs. SWG or DWG Equivalent	Increase Pavement Strength
Taxiway Type	Full Parallel	Full Parallel	None
Navigational Aids	Non-Precision Straight-In Approach	Precision Approach	Develop Precision Approach
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators & MALSR - Medium-Intensity Approach Lighting System with Runway Alignment Indicator	Install MALSR
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

St. George Municipal — UCASP Role: National

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Full service	None
Maintenance Facilities/Hangar	Full Service	Maintenance Facilities & Hangar 5,000 sq. ft.	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	On-site Rental Car	None
Terminal/Pilots' Lounge	Modern Terminal	Modern Terminal	None
Aircraft Storage	80 Hangars	Hangars – 75% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	100 Tie-downs	Apron – 25% of Based Fleet & 75% for Transient	None
Auto Parking	400 Spaces	Auto Parking – Per Master Plan	None
Fencing	Perimeter Fencing, Controlled Access	Perimeter Fencing, Controlled Access	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Construct New Airport	$190,000,000	$95,000,000	$95,000,000	$0
Pavement Maintenance	$4,823,118	$241,156	$241,156	$4,340,806
Install MALSR	$250,000	$0	$250,000	$0
Develop Precision Approach	$25,000	$0	$25,000	$0
Subtotal Costs	**$195,098,118**	**$95,241,156**	**$95,516,156**	**$4,340,806**

Wendover — UCASP Role: National

Primary Generators of Demand/Outside Influences:
Tourism

Issues/Notes:
Existing runway length is adequate for existing and projected operations. New casino under development could increase passenger enplanements.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	9
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	6
2006 Total Operations	7,072
2006 GA Itinerant Operations	2,104
2006 Total IFR Arrivals	881
2006 IFR Arrivals from Outside Utah	716
2006 Passenger Enplanements	45,506

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	C-III	C-III or Design Aircraft	None
Primary Runway Length	8,000’	Accommodate 75% of Large Aircraft at 90% Useful Load - 8,600’	None
Primary Runway Width	150’	To Meet ARC	None
Primary Runway Strength	75,000 lbs. SWG	60,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Partial Parallel	Full Parallel	Construct Full Parallel Taxiway (8,000’ x 35’)
Navigational Aids	Non-Precision Straight-In Approach	Precision Approach	Develop Precision Approach
Visual Aids	PAPIs, REILs	GVGIs and MALSR	Install MALSR
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

Wendover — UCASP Role: National

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Full service	None
Maintenance Facilities/Hangar	Full Service	Maintenance Facilities & Hangar 5,000 sq. ft.	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	Hotel Shuttle	On-site Rental Car	Provide On-site Car Rental
Terminal/Pilots' Lounge	Terminal	Modern Terminal	Improve Terminal
Aircraft Storage	10 Hangars	Hangars – 75% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	30 Tie-downs	Apron – 25% of Based Fleet & 75% for Transient	None
Auto Parking	10 Spaces	Auto Parking – Per Master Plan	None
Fencing	Partial Perimeter Fencing	Perimeter Fencing, Controlled Access	Install Full Perimeter Fencing and Controlled Access

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Construct Terminal	$3,881,579	$3,881,579	$0	$0
Pavement Preservation	$2,005,918	$401,184	$401,184	$1,203,550
Concrete Hardstands	$2,253,290	$2,253,290	$0	$0
Install Full Perimeter Fencing and Controlled Access	Varies*	Varies*	$0	$0
Construct Full Parallel Taxiway (8,000' x 35'); Construct Partial Parallel Taxiway to Runway 26, Construct West Cargo Apron Taxiway and South Apron Taxiway	$5,921,053	$0	$5,921,053	$0
Install MALSR	$312,500	$0	$312,500	$0
Develop Precision Approach	$31,250	$0	$31,250	$0
Subtotal Costs	**$14,405,589**	**$6,536,053**	**$6,665,986**	**$1,203,550**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Skypark — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth
Employment Growth
Transportation Improvements - Legacy Highway

Issues/Notes:
Due to surrounding development it is not feasible to upgrade airport to C-II standards. Instrument approach procedure not recommended due to potential conflicts with SLC International.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	208
2006 Based Multi-Engine Aircraft	13
2006 Based Jet Aircraft	0
2006 Total Operations	75,912
2006 GA Itinerant Operations	15,031
2006 Total IFR Arrivals	250
2006 IFR Arrivals from Outside Utah	213
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	C-II or Greater	None
Primary Runway Length	4,700‘	75% of Large Airplanes at 60% Useful Load - 6,220‘	None
Primary Runway Width	70‘	To Meet ARC	None
Primary Runway Strength	12,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Partial Parallel	Partial Parallel	None
Navigational Aids	Visual	Non-Precision Straight-In Approach	None
Visual Aids	VASIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	LIRL	MIRL-Medium Intensity Runway Lighting	Install MIRL
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	None

Skypark — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited Service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Car Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	61 Hangars, 1 FBO Hangar (184 Aircraft Based in Hangars)	Hangars for 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	50 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	Construct 50 Additional Tie-downs
Auto Parking	110 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Partial	Perimeter Fencing	Install Security Gates

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$2,915,146	$583,029	$583,029	$1,749,088
Runway Lighting: Install MIRL	$293,750	$0	$293,750	$0
Apron: Construct 50 Additional Tie-downs	$843,750	$0	$0	$843,750
Install Security Gates	Varies*	$0	$0	Varies*
Subtotal Costs	**$4,052,646**	**$583,029**	**$876,779**	**$2,592,838**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Brigham City Municipal — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth
Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	80
2006 Based Multi-Engine Aircraft	2
2006 Based Jet Aircraft	1
2006 Total Operations	37,770
2006 GA Itinerant Operations	6,225
2006 Total IFR Arrivals	117
2006 IFR Arrivals from Outside Utah	104
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	None - In process
Primary Runway Length	8,900’	75% of Large Airplanes at 60% Useful Load - 6,350'	None
Primary Runway Width	100‘	To Meet ARC	None
Primary Runway Strength	30,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	VASIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Brigham City Municipal — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Pilots' Lounge / Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	35 Hangars, 1 FBO Hangar (77 Aircraft Based in Hangars)	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	18 Tie-Downs	Apron – 40% of Based Fleet & 50% for Transient	Construct 30 Additional Tie-downs
Auto Parking	15 Spaces	Auto Parking – Equal to 33% of Based Aircraft	Construct 11 Additional Auto Parking
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance: Crack Seal, Seal Coat and Paint	$5,838,809	$583,881	$1,167,761	$4,087,166
Construct 30 Additional Tie-downs; Construct Aircraft Apron; Cost in CIP	$1,381,579	$1,381,579	$0	$0
Construct 11 Additional Auto Parking Spaces	$13,750	$13,750	$0	$0
Master Plan Update	$197,369	$197,369	$0	$0
Other CIP Projects: • Improve Runway Safety Area • Rehabilitate & Strengthen Runway 16/34 • Hangar Relocation (Hazard Removal)	$11,578,948	$11,578,948	$0	$0
Subtotal Costs	**$19,010,454**	**$13,755,525**	**$1,167,761**	**$4,087,166**

Cedar City Regional — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth,
Employment Growth,
Retirement/Second Home,
Development,
Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	80
2006 Based Multi-Engine Aircraft	10
2006 Based Jet Aircraft	0
2006 Total Operations	32,293
2006 GA Itinerant Operations	1,717
2006 Total IFR Arrivals	2,656
2006 IFR Arrivals from Outside Utah	1,141
2006 Passenger Enplanements	8,312

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	C-IV	C-II or Greater	None
Primary Runway Length	8,653‘	75% of Large Airplanes at 60% Useful Load - 6,960‘	None
Primary Runway Width	150‘	To Meet ARC	None
Primary Runway Strength	75,000 lbs.	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Precision Approach	Non-Precision Straight-In Approach	None
Visual Aids	MALSR, PAPI	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

Cedar City Regional — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Car Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	25 Hangars (45 Aircraft Based in Hangars)	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	70 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	100 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Rehabilitate Airport Pavements; Pavement Preservation; Rehabilitate Runway 2/20	$12,876,540	$2,575,308	$2,575,308	$7,725,924
Rehabilitate Runway Lighting	$394,736	$394,736	$0	$0
Construct Access Road	$197,369	$197,369	$0	$0
Construct Aircraft Rescue & Fire Fighting Building	$263,158	$263,158	$0	$0
Construct Apron	$657,895	$0	$657,895	$0
Conduct Environmental Assessment	$164,474	$0	$0	$164,474
Runway 8/26 Relocation; Construct Runway 8/26	$2,697,369	$0	$0	$2,697,369
Extend Runway 2/20	$5,361,843	$0	$0	$5,361,843
Subtotal Costs	**$22,613,383**	**$3,430,571**	**$3,233,203**	**$15,949,609**

Heber City Municipal — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth,
Employment Growth,
Retirement/Second Home,
Development,
Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	100
2006 Based Multi-Engine Aircraft	4
2006 Based Jet Aircraft	3
2006 Total Operations	40,306
2006 GA Itinerant Operations	6,500
2006 Total IFR Arrivals	1,144
2006 IFR Arrivals from Outside Utah	1,090
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	Upgrade ARC
Primary Runway Length	6,898‘	75% of Large Airplanes at 60% Useful Load - 6,960’	None
Primary Runway Width	75’	To Meet ARC	Widen (25’ x 6,898’)
Primary Runway Strength	12,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	Increase to 30,000 lbs. SWG
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Non-Precision Circling	Non-Precision Straight-In Approach	None
Visual Aids	PAPIs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	Install REILs
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Heber City Municipal — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Car Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Pilots' Lounge	Terminal with Appropriate Facilities	None
Aircraft Storage	100 Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	50 Tie-downs	Apron: 40% of Based Fleet & 50% for Transient	20 Additional Tie-downs
Auto Parking	30 Spaces	Auto Parking – Equal to 33% of Based Aircraft	5 Additional Parking Spots
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$3,765,818	$753,164	$753,164	$2,259,490
Acquire land for BRL 3a, 17, 18, Approaches	$592,105	$592,105	$0	$0
Install REILs	$40,000	$40,000	$0	$0
Construct 5 Additional Parking Spots & Access Roads	$104,934	$104,934	$0	$0
Install Perimeter Fence and Gates	$98,684	$98,684	$0	$0
Construct 20 Additional Tie-downs; Apron Expansion	$394,736	$0	$394,736	$0
Master Plan Update	$197,369	$0	$197,369	$0
Widen Runway Width (25' x 6,898')	$2,155,625	$0	$0	$2,155,625
Subtotal Costs	**$7,349,271**	**$1,588,888**	**$1,345,269**	**$4,415,115**

Hurricane — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Retirement/Second Homes, Tourism, Transportation improvements – Southern Parkway

Issues/Notes:
Due to surrounding development and terrain the airport can not be upgraded to C-II standards thus a 4,000' runway and 12,500 lbs. SWG pavement strength is recommended.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	68
2006 Based Multi-Engine Aircraft	2
2006 Based Jet Aircraft	0
2006 Total Operations	17,963
2006 GA Itinerant Operations	5,380
2006 Total IFR Arrivals	4
2006 IFR Arrivals from Outside Utah	4
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	C-II or Greater	None
Primary Runway Length	3,410'	75% of Large Airplanes at 60% Useful Load - 6,110'	Extend 490"
Primary Runway Width	40'	To Meet B-I ARC	Widen 20'
Primary Runway Strength	3,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	Strengthen to 12,500 lbs.
Taxiway Type	Turnarounds & Connectors	Partial Parallel	Construct Partial Parallel (2,000 x 35')
Navigational Aids	Visual	Non-Precision Straight-In Approach	None
Visual Aids	None	GVGIs and REILs	Install GVGIs and REILs
Lighting	None	MIRL-Medium Intensity Runway Lighting	Install MIRL
	None	Beacon	Install Beacon
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	None

Hurricane — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited service	None
Ground Communications	None	Phone	Provide Public Telephone
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	On-site Courtesy Car	Provide Courtesy Car
Terminal/Pilots' Lounge	Pilots' Lounge	Terminal with Appropriate Facilities	None
Aircraft Storage	68 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	16 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	30 Additional Tie-downs
Auto Parking	0 Paved Spaces	Auto Parking – Equal to 33% of Based Aircraft	22 Paved Parking Spaces
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$1,879,483	$375,896	$375,896	$1,127,690
Extend Runway 490'	$245,000	$0	$245,000	$0
Construct 30 Additional Tie-downs	$506,250	$0	$506,250	$0
Construct 22 Paved Parking Spaces	$27,500	$0	$27,500	$0
Widen Runway 20' (20' x 3,900')	$1,052,500	$0	$0	$1,052,500
Construct Partial Parallel Taxiway (2,000 x 35')	$875,000	$0	$0	$875,000
Subtotal Costs	**$4,740,733**	**$375,896**	**$1,309,646**	**$3,055,189**

Kanab Municipal

UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Retirement/Second Home, Development, Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	19
2006 Based Multi-Engine Aircraft	2
2006 Based Jet Aircraft	0
2006 Total Operations	8,394
2006 GA Itinerant Operations	1,826
2006 Total IFR Arrivals	89
2006 IFR Arrivals from Outside Utah	44
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	Upgrade ARC
Primary Runway Length	6,193'	75% of Large Airplanes at 60% Useful Load – 6600'	Extend 407'
Primary Runway Width	75'	To Meet ARC	Widen to 100'
Primary Runway Strength	12,500 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	Increase Pavement Strength to 30,000 lbs. SWG
Taxiway Type	Turnarounds & Connectors	Partial Parallel	Construct Partial Parallel
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	PAPI	GVGIs and REILs	Install REILs
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Kanab Municipal — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	15 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	40 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	15 Paved Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Apron Rehabilitation & Pavement Preservation (Runway & Connectors)	$2,200,324	$550,081	$550,081	$1,100,163
Remove Part 77 Obstructions, Fencing and Relocate Road from Runway 19 RPZ	$447,368	$447,369	$0	$0
Acquire Property for Approaches	$394,736	$394,736	$0	$0
Install REILs; REILs & Various Additional Lighting Upgrades	$37,500	$37,500	$0	$0
Rehabilitate Runway Lighting (Construction) Sch I	$417,790	$417,791	$0	$0
Construct Partial Parallel Taxiway; Construct Partial Parallel Taxiway to RW 19, Phases I and II	$2,131,579	$0	$2,131,579	$0
Widen Runway to 100' (25' x 6600'-new area)	$2,062,500	$0	$0	$2,062,500
Extend Runway 407'	$381,563	$0	$0	$381,563
Subtotal Costs	**$8,073,361**	**$1,847,478**	**$2,681,660**	**$3,544,225**

Logan – Cache

UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Utah State University

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	136
2006 Based Multi-Engine Aircraft	5
2006 Based Jet Aircraft	8
2006 Total Operations	80,450
2006 GA Itinerant Operations	11,214
2006 Total IFR Arrivals	656
2006 IFR Arrivals from Outside Utah	519
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	C-II	C-II or Greater	None
Primary Runway Length	9,095‘	75% of Large Airplanes at 60% Useful Load - 6,330‘	None
Primary Runway Width	100‘	To Meet ARC	None
Primary Runway Strength	60,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

Logan – Cache — UCASP Role: Regional

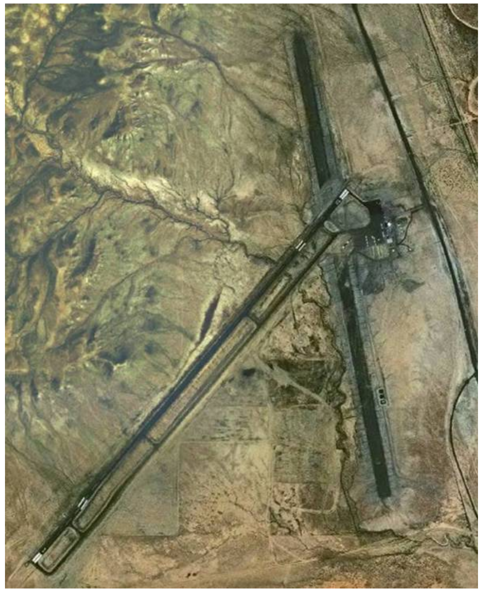
Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car	On-site Courtesy Car	None
Terminal/Pilots' Lounge	None	Terminal with Appropriate Facilities	None - New Terminal is in Process of Being Constructed
Aircraft Storage	128 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	43 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	Construct 15 Additional Tie-downs
Auto Parking	40 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$23,203,929	$2,320,393	$3,480,589	$17,402,946
Construct Partial Parallel Taxiway to Runway 35, Connecting to existing parallel Taxiway	$1,513,158	$1,513,158	$0	$0
Construct 15 Additional Tie-downs; Apron Reconstruction	$253,125	$253,125	$0	$0
Update Master Plan/ALP	$197,369	$0	$197,369	$0
Subtotal Costs	**$25,167,580**	**$4,086,675**	**$3,677,958**	**$17,402,946**

Moab – Canyonlands Field — UCASP Role: Regional



Primary Generators of Demand/Outside Influences:
Tourism, Retirement/Second Home, Development

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	25
2006 Based Multi-Engine Aircraft	1
2006 Based Jet Aircraft	0
2006 Total Operations	11,833
2006 GA Itinerant Operations	9,256
2006 Total IFR Arrivals	767
2006 IFR Arrivals from Outside Utah	297
2006 Passenger Enplanements	3,414

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	Upgrade ARC
Primary Runway Length	7,100‘	75% of Large Airplanes at 60% Useful Load - 6,760‘	None
Primary Runway Width	75‘	To Meet ARC – 100‘	Widen to 100‘
Primary Runway Strength	25,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	Increase Pavement Strength to 30,000 lbs.
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	PAPIs, REILs	GVGIs and REILs	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

Moab – Canyonlands Field — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	16 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	Construct 5 Hangar Units
Aircraft Storage	35 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	20 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Partial	Perimeter Fencing	Install Full Perimeter Fencing

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat and Paint Apron and Taxiway; Rehabilitate Runway 3/21	$3,335,786	$667,158	$667,158	$2,001,471
Pave Terminal Parking; Improve Access Road	$296,053	$296,053	$0	$0
Install Full Perimeter Fencing; Install Access Security Gates	$98,684	$98,684	$0	$0
Environmental Assessment for C-II upgrade	$394,736	$0	$394,736	$0
Widen Runway Width to 100'	$2,218,750	$0	$0	$2,218,750
Subtotal Costs	**$6,344,010**	**$1,061,894**	**$1,061,894**	**$4,220,221**

Morgan County — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth,
Retirement/Second Home,
Development,
Tourism

Issues/Notes:
Community elected to not relocate airport, unable to meet standards at current location.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	70
2006 Based Multi-Engine Aircraft	2
2006 Based Jet Aircraft	0
2006 Total Operations	11,461
2006 GA Itinerant Operations	2,270
2006 Total IFR Arrivals	4
2006 IFR Arrivals from Outside Utah	4
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	C-II or Greater	None
Primary Runway Length	3904’	75% of Large Airplanes at 60% Useful Load - 6,640’	None
Primary Runway Width	50’	To Meet ARC	None
Primary Runway Strength	12,500 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Turnarounds & Connectors	Partial Parallel	None
Navigational Aids	Visual	Non-Precision Straight-In Approach	None
Visual Aids	None	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	None	MIRL-Medium Intensity Runway Lighting	None
	None	Beacon	None
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	None

Morgan County — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	None	Maintenance Facilities - Limited service	Provide Limited Service Maintenance Facilities
Ground Communications	None	Phone	Provide Public Phone
Restrooms	None	Restrooms	Provide Public Restrooms
Ground Transportation	None	On-site Courtesy Car	Provide Courtesy Car
Terminal/Pilots' Lounge	Pilots' Lounge	Terminal with Appropriate Facilities	None
Aircraft Storage	28 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	Construct 14 Additional Hangar Units
Aircraft Storage	5 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	Construct 23 Additional Tie-downs
Auto Parking	0 Paved Spaces	Auto Parking – Equal to 33% of Based Aircraft	Construct 23 Parking Spaces
Fencing	None	Perimeter Fencing	Upgrade Wildlife Fencing

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat & Paint All Asphalt Surfaces	$812,001	$162,400	$162,400	$487,201
Construct 23 Additional Tie-downs	$388,125	$0	$388,125	$0
Upgrade Wildlife Fencing	Varies*	$0	Varies*	$0
Construct 23 Parking Spaces	$28,750	$0	$0	$28,750
Subtotal Costs	**$1,228,876**	**$162,400**	**$550,525**	**$515,951**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Nephi Municipal — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	9
2006 Based Multi-Engine Aircraft	2
2006 Based Jet Aircraft	1
2006 Total Operations	6,040
2006 GA Itinerant Operations	876
2006 Total IFR Arrivals	5
2006 IFR Arrivals from Outside Utah	4
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	C-II	C-II or Greater	None
Primary Runway Length	6,300‘	75% of Large Airplanes at 60% Useful Load - 6,840’	Extend 540’
Primary Runway Width	100‘	To Meet ARC	None
Primary Runway Strength	30,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Visual	Non-Precision Straight-In Approach	Develop Non-Precision Straight-In Approach
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	Install Automated Weather Reporting System

Nephi Municipal — UCASP Role: Regional

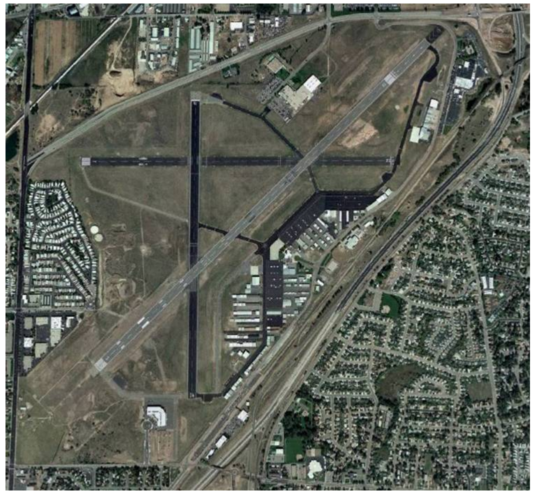
Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	None	Maintenance Facilities - Limited service	Provide Limited Service Maintenance Facilities
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	On-site Courtesy Car	Provide Courtesy Car
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	15 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	11 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	0 Paved Spaces	Auto Parking – Equal to 33% of Based Aircraft	Construct 5 Parking Spaces
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance, Crack Seal & Seal Coat	$555,871	$55,588	$138,968	$361,316
Construct Taxiway to New Runway 16/34 AIP-09	$2,399,800	$2,399,800	$0	$0
Construct Taxilanes	$197,369	$197,369	$0	$0
Update Master Plan	$197,369	$197,369	$0	$0
Install Automated Weather Reporting System; Install AWOS III	$197,369	$197,369	$0	$0
Construct 5 Parking Spaces; Construct Airport Entrance Road	$203,619	$203,619	$0	$0
Develop Non-Precision Straight-In Approach	$31,250	$0	$31,250	$0
Expand Apron	$592,105	$0	$592,105	$0
Snow Removal Equipment (SRE) & SRE Building	$394,736	$0	$394,736	$0
Extend Runway 540'	$675,000	$0	$0	$675,000
Subtotal Costs	**$5,444,489**	**$3,251,113**	**$1,157,060**	**$1,036,316**

Ogden – Hinckley Municipal — UCASP Role: Regional



Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	292
2006 Based Multi-Engine Aircraft	34
2006 Based Jet Aircraft	10
2006 Total Operations	116,116
2006 GA Itinerant Operations	37,359
2006 Total IFR Arrivals	1,828
2006 IFR Arrivals from Outside Utah	1,587
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	C-III	C-II or Greater	None
Primary Runway Length	8,103‘	75% of Large Airplanes at 60% Useful Load - 6,480‘	None
Primary Runway Width	150‘	To Meet ARC	None
Primary Runway Strength	120,000 lbs. DWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Precision Approach	Non-Precision Straight-In Approach	None
Visual Aids	MALS, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	HIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS, LAWRS	Automated Weather Reporting	None

Ogden – Hinckley Municipal — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Full Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	310 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	163 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	160 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat and Paint Runways 16/34 & 7/25 & Miscellaneous Taxiways; Preservation Plan	$18,241,079	$3,648,216	$3,648,216	$10,944,648
Construct Taxiway K	$6,198,273	$6,198,273	$0	$0
Subtotal Costs	**$24,439,351**	**$9,846,488**	**$3,648,216**	**$10,944,648**

Price – Carbon County — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Energy Exploration

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	34
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	12,267
2006 GA Itinerant Operations	2,619
2006 Total IFR Arrivals	638
2006 IFR Arrivals from Outside Utah	99
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	C-II	C-II or Greater	None
Primary Runway Length	8,300’	75% of Large Airplanes at 60% Useful Load - 7,070’	None
Primary Runway Width	100’	To Meet ARC	None
Primary Runway Strength	30,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Partial Parallel	Partial Parallel	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	VASIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

Price – Carbon County — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Limited Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	15 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	Construct 6 Additional Hangar Units
Aircraft Storage	35 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	20 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Partial	Perimeter Fencing	Install Full Perimeter Fencing

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$10,406,146	$2,081,229	$2,081,229	$6,243,688
Construct Parallel Taxiway Phase III	$1,381,579	$1,381,579	$0	$0
Construct 6 Additional Hangar Units	$347,369	$0	$347,369	$0
Expand North Apron	$1,381,579	$0	$0	$1,381,579
Install Full Perimeter Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$13,516,673**	**$3,462,809**	**$2,428,598**	**$7,625,266**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Provo Municipal — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth,
Employment Growth,
Utah Valley State Collage
Brigham Yong University

Issues/Notes:
Airport will potentially have scheduled commercial service in the future.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	166
2006 Based Multi-Engine Aircraft	25
2006 Based Jet Aircraft	4
2006 Total Operations	159,793
2006 GA Itinerant Operations	59,671
2006 Total IFR Arrivals	2,310
2006 IFR Arrivals from Outside Utah	1,792
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	C-III	C-II or Greater	None
Primary Runway Length	8,599'	75% of Large Airplanes at 60% Useful Load - 6,490'	None
Primary Runway Width	150'	To Meet ARC	None
Primary Runway Strength	75,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Precision Approach	Non-Precision Straight-In Approach	None
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	HIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Provo Municipal — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Full Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	120 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	138 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	200 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Rehabilitate Runway 13/31 and Taxiways and Apron	$19,255,835	$4,813,959	$4,813,959	$9,627,918
Subtotal Costs	**$19,255,835**	**$4,813,959**	**$4,813,959**	**$9,627,918**

Richfield Municipal — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Energy Exploration.

Issues/Notes:
Construction of a replacement runway & full parallel taxiway currently in the design phase.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	29
2006 Based Multi-Engine Aircraft	2
2006 Based Jet Aircraft	0
2006 Total Operations	14,219
2006 GA Itinerant Operations	2,702
2006 Total IFR Arrivals	149
2006 IFR Arrivals from Outside Utah	77
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	Upgrade ARC
Primary Runway Length	6,600‘	75% of Large Airplanes at 60% Useful Load - 6,800’	Extend Runway 200‘
Primary Runway Width	75‘	To Meet ARC	Widen Runway 100‘
Primary Runway Strength	19,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	Increase Pavement Strength to 30,000 lbs.
Taxiway Type	Turnarounds & Connectors	Partial Parallel	Construct Partial Parallel
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	PAPIs	GVGIs and REILs	Install REILs
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Richfield Municipal — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Full Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	32 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	30 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	20 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Partial	Perimeter Fencing	Install Full Perimeter Fencing

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$6,060,098	$303,005	$606,010	$5,151,083
New Runway: Land Acquisition and Construction	$10,664,474	$5,332,236	$5,332,236	$0
Construct Partial Parallel Taxiway	$2,388,158	$1,194,079	$1,194,079	$0
Install REILs	$40,000	$0	$40,000	$0
Install Full Perimeter Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$19,152,729**	**$6,829,320**	**$7,172,325**	**$5,151,083**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Salt Lake City Municipal #2 — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Tourism, Transportation Improvements – Mountain View Corridor

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	214
2006 Based Multi-Engine Aircraft	10
2006 Based Jet Aircraft	2
2006 Total Operations	65,815
2006 GA Itinerant Operations	8,823
2006 Total IFR Arrivals	475
2006 IFR Arrivals from Outside Utah	423
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	Upgrade ARC
Primary Runway Length	5,860‘	75% of Large Airplanes at 60% Useful Load - 6,540‘	Extend Runway 680'
Primary Runway Width	100‘	To Meet ARC	None
Primary Runway Strength	12,500 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	Increase Pavement Strength to 30,000 lbs.
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	PAPIs, REILs	GVGIs and REILs	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Salt Lake City Municipal #2 — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Full Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	Rental Cars Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	143 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	83 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	200 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Taxiway A Resurface & Access Roads	$707,000	$707,000	$0	$0
Construct Aircraft Hangars	$789,474	$789,474	$0	$0
Conduct Environmental Assessment for Runway Extension	$197,369	$0	$197,369	$0
Runway/Taxiway Extension design	$1,500,000	$0	$1,500,000	$0
Runway / Taxiway Extension	$18,500,000	$0	$18,500,000	$0
Infrastructure & Taxiway Development	$3,000,000	$0	$0	$3,000,000
Perimeter Road and Fencing	$478,000	$0	$0	$478,000
Subtotal Costs	**$25,171,843**	**$1,496,474**	**$20,197,369**	**$3,478,000**

Spanish Fork – Springville — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	111
2006 Based Multi-Engine Aircraft	15
2006 Based Jet Aircraft	0
2006 Total Operations	55,221
2006 GA Itinerant Operations	7,952
2006 Total IFR Arrivals	201
2006 IFR Arrivals from Outside Utah	167
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	Upgrade ARC
Primary Runway Length	5,700‘	75% of Large Airplanes at 60% Useful Load - 6,530’	Extend Runway 830‘
Primary Runway Width	100‘	To Meet ARC	None
Primary Runway Strength	12,500 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	Increase Pavement Strength to 30,000 lbs.
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Visual	Non-Precision Straight-In Approach	Develop Non-Precision Straight-In Approach
Visual Aids	PAPIs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	Install REILs
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	Install Automated Weather Reporting System

Spanish Fork – Springville — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Full Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	130 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	39 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	Construct 10 Additional Tie-downs
Auto Parking	30 Spaces	Auto Parking – Equal to 33% of Based Aircraft	Construct 7 Parking Spaces
Fencing	Partial	Perimeter Fencing	Install Full Perimeter Fencing

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Environmental Mitigation	$1,677,631	$1,677,631	$0	$0
Extend Runway 850'	$1,513,158	$1,513,158	$0	$0
Rehabilitate Runway 12/30	$7,148,764	$7,148,764	$0	$0
Rehabilitate and Extend Parallel Taxiway	$1,381,579	$1,381,579	$0	$0
Construct Taxilane	$394,736	$0	$394,736	$0
Install REILs	$40,000	$0	Varies*	$0
Install Automated Weather Reporting System	$156,250	$0	$156,250	$0
Develop Non-Precision Straight-In Approach	$31,250	$0	$31,250	$0
Install Full Perimeter Fencing	Varies*	$0	Varies*	$0
Construct 10 Additional Tie-downs	$168,750	$0	$0	$168,750
Construct 7 Parking Spaces	$8,750	$0	$0	$8,750
Subtotal Costs	**$12,520,869**	**$11,721,133**	**$582,236**	**$177,500**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Tooele Valley — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Tourism – Miller Sports Park

Issues/Notes: n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	20
2006 Based Multi-Engine Aircraft	2
2006 Based Jet Aircraft	0
2006 Total Operations	45,715
2006 GA Itinerant Operations	15,638
2006 Total IFR Arrivals	35
2006 IFR Arrivals from Outside Utah	30
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	Upgrade ARC
Primary Runway Length	6,100‘	75% of Large Airplanes at 60% Useful Load - 6,510‘	Extend Runway 410‘
Primary Runway Width	100‘	To Meet ARC	None
Primary Runway Strength	30,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Tooele Valley — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	None	FBO - Limited Service	Provide Limited Service FBO
Maintenance Facilities/Hangar	None	Maintenance Facilities - Limited service	Provide Limited Service Maintenance Facilities
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	On-site Courtesy Car	Provide Courtesy Car
Terminal/Pilots' Lounge	None	Terminal with Appropriate Facilities	Construct Terminal Building (1,000 sq. feet)
Aircraft Storage	6 Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	Construct 10 Hangar Units
Aircraft Storage	29 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	20 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Land Acquisition	$4,500,000	$4,500,000	$0	$0
Apron Expansion	$550,000	$550,000	$0	$0
Taxiway \ Apron Development	$727,000	$727,000	$0	$0
Construct 10 Hangar Units	$625,000	$312,500	$312,500	$0
Building and Sewer Infrastructure	$2,000,000	$0	$2,000,000	$0
Runway & Taxiway Resurface	$2,000,000	$0	$2,000,000	$0
Subtotal Costs	**$10,402,000**	**$6,089,500**	**$4,312,500**	**$0**

Vernal — UCASP Role: Regional

Primary Generators of Demand/Outside Influences:
Employment Growth, Energy Exploration

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	34
2006 Based Multi-Engine Aircraft	1
2006 Based Jet Aircraft	0
2006 Total Operations	12,256
2006 GA Itinerant Operations	2,352
2006 Total IFR Arrivals	1,201
2006 IFR Arrivals from Outside Utah	348
2006 Passenger Enplanements	2,123

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	C-II or Greater	Upgrade ARC
Primary Runway Length	6,201'	75% of Large Airplanes at 60% Useful Load - 6,790'	Extend Runway 589'
Primary Runway Width	150’	To Meet ARC	None
Primary Runway Strength	45,000 lbs. SWG	30,000 lbs. SWG or DWG Equivalent	None
Taxiway Type	Full Parallel	Partial Parallel	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Straight-In Approach	None
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

Vernal — UCASP Role: Regional

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Full Service	FBO - Limited Service	None
Maintenance Facilities/Hangar	Full Service	Maintenance Facilities - Limited service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	On-site Courtesy Car, Rental Cars Available	On-site Courtesy Car	None
Terminal/Pilots' Lounge	Terminal	Terminal with Appropriate Facilities	None
Aircraft Storage	30 Aircraft in Hangars	Hangars – 60% of Based Fleet & 25% of Overnight Aircraft	None
Aircraft Storage	24 Tie-downs	Apron – 40% of Based Fleet & 50% for Transient	None
Auto Parking	20 Spaces	Auto Parking – Equal to 33% of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation; Runway Reconstruction	$10,620,024	$5,310,013	$6,903,015	$3,186,008
Environmental Assessment	$328,948	$328,948	$0	$0
Acquire Land; Design New Runway	$5,039,474	$2,519,736	$2,519,736	$0
Extend Runway 589'	$1,104,375	$0	$1,104,375	$0
Subtotal Costs	**$17,092,820**	**$8,158,696**	**$10,527,128**	**$3,186,008**

Beaver Municipal — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Tourism

Issues/Notes:
Ski and Golf resort proposed for development in the area could increased usage of airport by larger aircraft.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	12
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	5,081
2006 GA Itinerant Operations	341
2006 Total IFR Arrivals	32
2006 IFR Arrivals from Outside Utah	4
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	5,100‘	75% of Small Airplanes -5,070‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Turnarounds & Connectors	Turnarounds & Connectors	None
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	PAPIs & REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Beaver Municipal — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Self-service Fuel	FBO - Limited Service	Provide Limited Service FBO
Ground Communications	Public Phone	Public Phone	None
Restrooms	None	Restrooms	Provide Restrooms
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	8 Aircraft in Hangars	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	12 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Construct 12 Parking Spaces
Fencing	Partial Fencing	Full Perimeter Fencing	Upgrade Wildlife Fencing
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation; Crack Seal, Seal Coat and Paint; Preservation Plan	$2,032,641	$406,529	$406,529	$1,219,585
Install Wildlife Perimeter Fence	$432,834	$432,834	$0	$0
Develop Non-Precision Straight-In Approach	$31,250	$31,250	$0	$0
Construct Partial Parallel Taxiway (A3 to A2), (A2 to A1)	$1,118,421	$559,210	$559,210	$0
Provide Pilots' Lounge (Standard 500 square feet)	$78,125	$0	$78,125	$0
Construct 12 Parking Spaces	$15,000	$0	$0	$15,000
Subtotal Costs	**$3,708,271**	**$1,429,823**	**$1,043,864**	**$1,234,585**

Blanding Municipal — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
n/a

Issues/Notes:
Serves rural & remote area of the state and the Four Corners region.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	16
2006 Based Multi-Engine Aircraft	4
2006 Based Jet Aircraft	0
2006 Total Operations	6,490
2006 GA Itinerant Operations	1,050
2006 Total IFR Arrivals	178
2006 IFR Arrivals from Outside Utah	93
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	6,000'	75% of Small Airplanes -5,100'	None
Primary Runway Width	75'	75'	None
Primary Runway Strength	27,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Turnarounds & Connectors	Turnarounds & Connectors	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Approach	None
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Blanding Municipal — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	Courtesy Car	Courtesy Car	None
Aircraft Storage	16 Aircraft in Hangars	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	26 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	45 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Partial	Full Perimeter Fencing	Upgrade Security Fencing
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal and Seal Coat Pavements; Preservation Plan	$4,053,639	$810,728	$810,728	$2,432,184
Rehabilitate/Expand Aircraft Apron	$501,829	$501,829	$0	$0
Acquire Land	$197,369	$197,369	$0	$0
Construct Partial Parallel Taxiway	$592,105	$0	$592,105	$0
Upgrade Security Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$5,344,941**	**$1,509,925**	**$1,402,833**	**$2,432,184**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Bryce Canyon — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	9
2006 Based Multi-Engine Aircraft	1
2006 Based Jet Aircraft	0
2006 Total Operations	9,640
2006 GA Itinerant Operations	4,472
2006 Total IFR Arrivals	69
2006 IFR Arrivals from Outside Utah	60
2006 Passenger Enplanements	2,857

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	7,400‘	75% of Small Airplanes– 6420‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	30,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Full Parallel	Turnarounds & Connectors	None
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

Bryce Canyon — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	Rental Cars Available	Courtesy Car	None
Aircraft Storage	5 Aircraft Based in Hangars	Hangars – 50% of Based Fleet & 25% of Transient fleet	Develop Transient Hangar Space (4 hangars)
Aircraft Storage	23 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	40 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Full Perimeter Fencing	Full Perimeter Fencing	None
Terminal/Pilots' Lounge	Terminal	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation; Preservation Plan	$1,445,149	$433,545	$289,030	$722,575
Environmental Assessment for Runway Widening/Extension & Approaches	$197,369	$197,369	$0	$0
Rehabilitate Access Road	$394,736	$394,736	$0	$0
ARFF Building and Equipment	$592,105	$592,105	$0	$0
Runway Extension (Land Acquisition, Preparation, Construction)	$2,328,948	$0	$2,328,948	$0
Runway Widening (Land Acquisition, Preparation, Construction)	$2,328,948	$0	$2,328,948	$0
Develop Non-Precision Approach	$31,250	$0	$31,250	$0
Develop Transient Hangar Space (4 hangars)	$100,000	$0	$0	$100,000
Subtotal Costs	**$7,418,504**	**$1,617,755**	**$4,978,175**	**$822,575**

Delta Municipal — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	9
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	4,232
2006 GA Itinerant Operations	1,192
2006 Total IFR Arrivals	117
2006 IFR Arrivals from Outside Utah	40
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	6,011'	75% of Small Airplanes– 4540'	None
Primary Runway Width	75'	75'	None
Primary Runway Strength	21,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Partial Parallel	Turnarounds & Connectors	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Approach	None
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Delta Municipal — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Self Service Fuel	FBO - Limited Service	Provide Limited Service FBO
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	9 Aircraft in Hangars	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	22 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	12 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Partial Fencing	Full Perimeter Fencing	Install Security Gates
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation on Runway 12/30; Rehabilitate/Maintain Runway; Rehabilitate Taxiway and Apron	$6,999,846	$1,049,978	$1,049,978	$4,899,893
Acquire Land for Approach Protection and Fences	$791,248	$791,248	$0	$0
SRE Building	$197,369	$197,369	$0	$0
Install Security Gates	Varies*	$0	Varies*	$0
Subtotal Costs	**$7,988,463**	**$2,038,593**	**$1,049,978**	**$4,899,893**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Jake Garn Airport, Eagle Mountain — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Transportation, Improvements – Mountain View Corridor

Issues/Notes:
Airport is currently designated as a privately owned public-use facility and is in the process of being developed. Due to private ownership development funding could be an issue.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	1
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	3,703
2006 GA Itinerant Operations	185
2006 Total IFR Arrivals	0
2006 IFR Arrivals from Outside Utah	0
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	A-I	B-II	Upgrade ARC
Primary Runway Length	5,000‘	75% of Small Airplanes– 4,620‘	None
Primary Runway Width	50‘	75’	Widen 25‘
Primary Runway Strength	4,000 lbs. SWG	12,500 lbs. SWG	Increase Pavement Strength to 12,500 lbs.
Taxiway Type	Connector	Turnarounds & Connectors	Construct Turnarounds
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	None	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	Install GVGIs and REILs
Lighting	None	MIRL-Medium Intensity Runway Lighting	Install MIRL
	None	Beacon	Install Beacon
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	Install Automated Weather System

Jake Garn Airport, Eagle Mountain — UCASP Role: Community

Landside Facilities

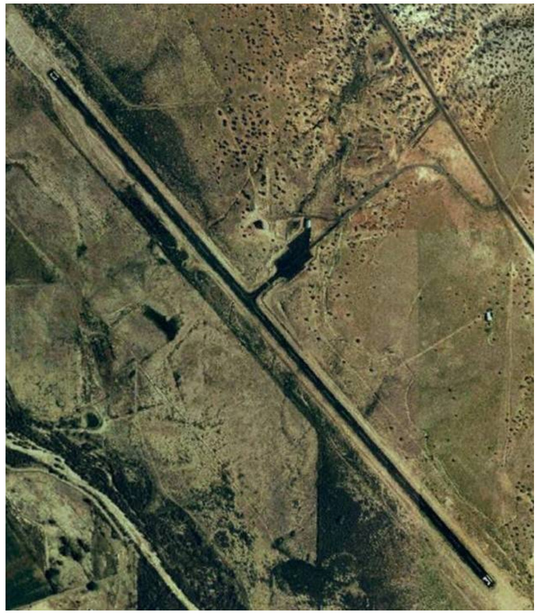
Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	None	FBO - Limited Service	Provide Limited Service FBO
Ground Communications	None	Phone	Provide Public Phone
Restrooms	None	Restrooms	Provide Restrooms
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	None	Hangars – 50% of Based Fleet & 25% of Transient fleet	Construct 1 Hangar
Aircraft Storage	None	Apron – 50% of Based Fleet & 25% for Transient	Construct 5 tie-downs
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Construct Auto Parking (5 Spaces)
Fencing	None	Full Perimeter Fencing	Install Full Perimeter Fencing
Terminal/Pilots' Lounge	None	Pilots' Lounge	Construct Pilots' Lounge

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Increase Pavement Strength to 12,500 lbs. & Pave additional 2,500'	$3,828,125	$0	$0	$3,828,125
Widen Runway 25'	$1,093,750	$0	$0	$1,093,750
Install MIRL	$312,500	$0	$0	$312,500
Install GVGIs (PAPI)	$75,000	$0	$0	$75,000
Install REILs	$40,000	$0	$0	$40,000
Install Beacon	$12,500	$0	$0	$12,500
Construct Turnarounds	$187,500	$0	$0	$187,500
Develop Non-Precision Approach	$31,250	$0	$0	$31,250
Construct 1 Hangar	$25,000	$0	$0	$25,000
Construct 5 Tie-downs	$84,375	$0	$0	$84,375
Construct Auto Parking (5 Spaces)	$6,250	$0	$0	$6,250
Construct Pilots' Lounge (standard 500 square feet)	$78,125	$0	$0	$78,125
Install Full Perimeter Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$5,774,375**	**$0**	**$0**	**$5,774,375**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Escalante Municipal — UCASP Role: Community



Primary Generators of Demand/Outside Influences:
Tourism, Retirement/Second Home, Development

Issues/Notes:
Provides access to rural/remote areas of the state.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	2
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	649
2006 GA Itinerant Operations	248
2006 Total IFR Arrivals	3
2006 IFR Arrivals from Outside Utah	2
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	5,025‘	75% of Small Airplanes -5,000‘	None
Primary Runway Width	60‘	75‘	Widen 15‘
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds & Connectors	Construct Turnarounds
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	None	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	Install GVGIs and REILs
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	Install Automated Weather System

Escalante Municipal — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	None	FBO - Limited Service	Provide Limited Service FBO
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	2 Aircraft in Hangars	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	6 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	10 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Full perimeter fencing	Full Perimeter Fencing	None
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal , Fog Seal and Paint All Pavements; Runway Overlay	$1,663,431	$1,663,431	$0	$0
Construct Taxiway Turnarounds	$187,500	$0	$187,500	$0
Install Lighting	$197,369	$0	$197,369	$0
Install GVGIs (PAPIs)	$75,000	$0	$75,000	$0
Install REILs	$40,000	$0	$40,000	$0
Develop Non-Precision Approach	$31,250	$0	$0	$31,250
Widen Runway 15‘	$659,531	$0	$0	$659,531
Subtotal Costs	**$2,854,081**	**$1,663,431**	**$499,869**	**$690,781**

Fillmore — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	1
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,787
2006 GA Itinerant Operations	865
2006 Total IFR Arrivals	8
2006 IFR Arrivals from Outside Utah	3
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	5,050‘	75% of Small Airplanes– 4,690‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Turnarounds & Connectors	Turnarounds & Connectors	None
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Fillmore — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	1 Large FBO Hangar	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	10 tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Construct Auto Parking (5 Spaces)
Fencing	None	Full Perimeter Fencing	Install Full Perimeter Fencing
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation	$788,231	$78,824	$157,646	$551,763
Rehabilitate Runway and Strengthen to 12,500 lbs. SWG	$635,000	$635,000	$0	$0
Obstruction removal	$125,000	$125,000	$0	$0
Develop Non-Precision Approach; Instrument Approach & Land Acquisition	$173,611	$173,611	$0	$0
Construct Auto Parking (5 Spaces)	$6,250	$6,250	$0	$0
Rehabilitate Runway and Taxiway Lighting	$390,625	$0	$390,625	$0
Install Full Perimeter Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$2,118,718**	**$1,018,684**	**$548,271**	**$551,763**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Green River — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	6
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	4,003
2006 GA Itinerant Operations	1,901
2006 Total IFR Arrivals	15
2006 IFR Arrivals from Outside Utah	8
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	5,600‘	75% of Small Airplanes– 4,120‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	12,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Partial Parallel	Turnarounds & Connectors	None
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	Install Automated Weather System

Green River — UCASP Role: Community

Landside Facilities

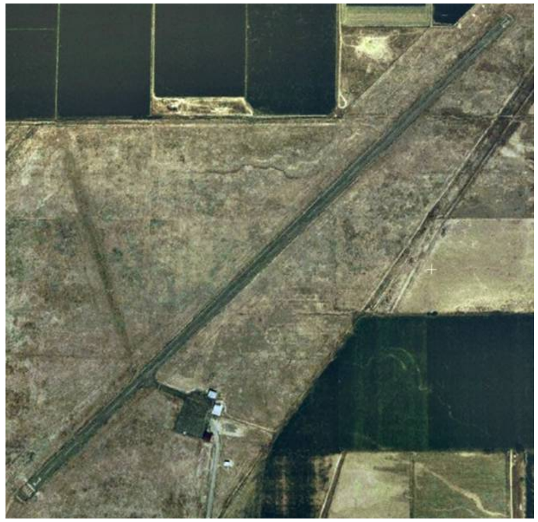
Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	1 Large FBO Hangar	Hangars – 50% of Based Fleet & 25% of Transient fleet	Construct Transient Hangar Space (2 units)
Aircraft Storage	25 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	10 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Partial	Full Perimeter Fencing	Install Full Perimeter Fencing
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat and Paint; Rehabilitate Runway (Maintenance of All Airfield Pavements)	$3,212,138	$642,428	$642,428	$1,927,283
Parallel Taxiway (Multi-Year Project 2008-2010) Phase III	$592,105	$592,105	$0	$0
Update Airport Master Plan	$197,369	$0	$197,369	$0
Develop Non-Precision Approach	$31,250	$0	$0	$31,250
Construct Transient Hangar Space (2 units)	$50,000	$0	$0	$50,000
Install Full Perimeter Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$4,082,861**	**$1,234,533**	**$839,796**	**$2,008,533**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Manti-Ephraim — UCASP Role: Community



Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	3
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,571
2006 GA Itinerant Operations	303
2006 Total IFR Arrivals	4
2006 IFR Arrivals from Outside Utah	1
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	4,584‘	75% of Small Airplanes -4,790‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	24,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds & Connectors	Construct Turnarounds
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	PAPIs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	Install REILs
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	Install Automated Weather System

Manti-Ephraim — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	None	FBO - Limited Service	Provide Limited Service FBO
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	9 Aircraft in Hangars	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	12 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Construct Auto Parking (5 Spaces)
Fencing	Full Perimeter Fencing	Full Perimeter Fencing	None
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation	$376,379	$94,095	$94,095	$188,190
Acquire Land for Approaches	$65,790	$65,790	$0	$0
Construct Turnarounds	$467,848	$467,848	$0	$0
AWOS III	$197,369	$197,369	$0	$0
Install REILs	$40,000	$0	$40,000	$0
Develop Non-Precision Approach	$31,250	$0	$0	$31,250
Construct Auto Parking (5 Spaces)	$6,250	$0	$0	$6,250
Subtotal Costs	**$1,184,884**	**$825,100**	**$134,095**	**$225,690**

Milford Municipal — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	4
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	4,180
2006 GA Itinerant Operations	1,223
2006 Total IFR Arrivals	111
2006 IFR Arrivals from Outside Utah	62
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	5,000‘	75% of Small Airplanes -4,700‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	26,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds & Connectors	Construct Turnarounds
Navigational Aids	Non-Precision Approach	Non-Precision Approach	None
Visual Aids	VASIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	ASOS	Automated Weather Reporting	None

Milford Municipal — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	4 hangars + 1 FBO Hangar (4 Aircraft Based in Hangars)	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	15 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	10 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Full Perimeter Fencing	Full Perimeter Fencing	None
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation	$2,757,855	$551,571	$551,571	$1,654,713
Install PAPIs	$128,719	$128,719	$0	$0
Install REILs	$68,650	$68,650	$0	$0
Construct Turnaround & Partial Parallel Taxiway	$1,381,579	$414,474	$967,105	$0
ALP Update	$197,369	$0	$197,369	$0
Subtotal Costs	**$4,534,171**	**$1,163,413**	**$1,716,045**	**$1,654,713**

Monticello — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
Planning is underway for construction of a replacement airport.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	9
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	4,191
2006 GA Itinerant Operations	788
2006 Total IFR Arrivals	51
2006 IFR Arrivals from Outside Utah	13
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	4,817'	75% of Small Airplanes -6,030'	Extend Runway 1,213'
Primary Runway Width	75'	75'	None
Primary Runway Strength	11,000 lbs. SWG	12,500 lbs. SWG	Increase Pavement Strength to 12,500 lbs.
Taxiway Type	Full Parallel	Turnarounds & Connectors	None
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	PAPIs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	Install REILs
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	DigiWx	Automated Weather Reporting	None

Monticello — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	Courtesy Car	Courtesy Car	None
Aircraft Storage	8 Hangars (8 Aircraft Based in Hangars)	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	6 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	10 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	None	Full Perimeter Fencing	Install Security Gates
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
New Airport Construction Phases I through IV	$6,809,210	$0	$5,697,369	$1,111,843
Install REILs	$40,000	$0	$40,000	$0
Install Security Gates	Varies*	$0	Varies*	$0
Develop Non-Precision Approach	$31,250	$0	$0	$31,250
Subtotal Costs	**$6,880,460**	**$875,000**	**$5,737,369**	**$1,143,093**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Panguitch Municipal — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	5
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,963
2006 GA Itinerant Operations	479
2006 Total IFR Arrivals	42
2006 IFR Arrivals from Outside Utah	11
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	5,700‘	75% of Small Airplanes -5,730‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	20,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Turnarounds & Connectors	Turnarounds & Connectors	None
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	PAPIs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	Install REILs
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Panguitch Municipal — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	None	FBO - Limited Service	Provide Limited Service FBO
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	6 Hangars	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	12 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	41 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Full Perimeter Fencing	Full Perimeter Fencing	None
Terminal/Pilots' Lounge	None	Pilots' Lounge	Construct Pilots' Lounge

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation	$2,464,551	$492,910	$492,910	$1,478,731
Construct Parallel Taxiway	$789,474	$197,369	$197,369	$394,736
Develop Non-Precision Approach	$31,250	$31,250	$0	$0
Construct Apron	$394,736	$394,736	$0	$0
Construct Pilots' Lounge	$78,125	$0	$78,125	$0
Install REILs	$40,000	$0	$0	$40,000
Subtotal Costs	**$3,798,136**	**$1,116,265**	**$768,404**	**$1,913,468**

Parowan

UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	33
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	10,976
2006 GA Itinerant Operations	2,163
2006 Total IFR Arrivals	13
2006 IFR Arrivals from Outside Utah	3
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	5,000‘	75% of Small Airplanes -5,130‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	30,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Full Parallel	Turnarounds & Connectors	None
Navigational Aids	Visual	Non-Precision Approach	Develop Non-Precision Approach
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	None	Automated Weather Reporting	Install Automated Weather System

Parowan — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Ground Communications	None	Phone	Provide Public Phone
Restrooms	Restrooms	Restrooms	None
Ground Transportation	Courtesy Car	Courtesy Car	None
Aircraft Storage	10 Hangars, 1 Large FBO Hangar	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	46 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	6 Spaces	Auto Parking – Equal to Number of Based Aircraft	Construct 27 Parking Spaces
Fencing	Full Perimeter Fencing	Full Perimeter Fencing	Install Security Gates
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$3,732,681	$746,536	$746,536	$2,239,609
Environmental Mitigation	$375,000	$375,000	$0	$0
Land Acquisition	$414,474	$414,474	$0	$0
Runway Safety Area Grading	$125,000	$125,000	$0	$0
Construct Taxilanes	$394,736	$394,736	$0	$0
Install AWOS	$156,250	$0	$156,250	$0
Install Security Gates; Security Fencing	$197,369	$0	$197,369	$0
Develop Non-Precision Approach	$31,250	$0	$0	$31,250
Construct 27 Parking Spaces	$33,750	$0	$0	$33,750
Subtotal Costs	**$5,335,510**	**$1,930,746**	**$1,100,155**	**$2,304,609**

Roosevelt Municipal — UCASP Role: Community

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	12
2006 Based Multi-Engine Aircraft	2
2006 Based Jet Aircraft	0
2006 Total Operations	4,777
2006 GA Itinerant Operations	923
2006 Total IFR Arrivals	118
2006 IFR Arrivals from Outside Utah	52
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	B-II	None
Primary Runway Length	6,500‘	75% of Small Airplanes - 4,740‘	None
Primary Runway Width	75‘	75‘	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Turnarounds & Connectors	Turnarounds & Connectors	None
Navigational Aids	Non-Precision Straight-In Approach	Non-Precision Approach	None
Visual Aids	PAPIs, REILs	GVGIs-General Visual Glideslope Indicators and REILs - Runway End Identifier Lights	None
Lighting	MIRL	MIRL-Medium Intensity Runway Lighting	None
	Beacon	Beacon	None
	Windsock	Windsock	None
Weather	AWOS III	Automated Weather Reporting	None

Roosevelt Municipal — UCASP Role: Community

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
FBO	Limited Service	FBO - Limited Service	None
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Ground Transportation	None	Courtesy Car	Provide Courtesy Car
Aircraft Storage	4 Hangars, 1 FBO Hangar (7 Aircraft Based in Hangars)	Hangars – 50% of Based Fleet & 25% of Transient fleet	None
Aircraft Storage	12 Tie-downs	Apron – 50% of Based Fleet & 25% for Transient	None
Auto Parking	7 Spaces	Auto Parking – Equal to Number of Based Aircraft	Construct 5 Parking Spaces
Fencing	Full Perimeter Fencing	Full Perimeter Fencing	Install Security Gates
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat Runway and Apron	$1,973,490	$394,698	$394,698	$1,184,094
Improve Runway 7/25 Safety Area	$203,905	$203,905	$0	$0
Construct Bypass Taxiways; Construct Partial Parallel Taxiways to Runway 25	$1,697,369	$848,684	$848,684	$0
Construct 5 Parking Spaces	$6,250	$0	$6,250	$0
Install Security Gates	Varies*	$0	$0	Varies*
Subtotal Costs	**$3,881,014**	**$1,447,288**	**$1,249,633**	**$1,184,094**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Bluff — UCASP Role: Local

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Tourism

Issues/Notes:
Airport provides access to rural/remotes area of the state.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	4
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,467
2006 GA Itinerant Operations	499
2006 Total IFR Arrivals	1
2006 IFR Arrivals from Outside Utah	0
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	A-I	A-I	None
Primary Runway Length	2,900‘	Maintain Existing	None
Primary Runway Width	45‘	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds and/or Connectors	None
Lighting	None	LIRL-Low Intensity Runway Lighting or Reflectors	Install Low Intensity Runway Lighting or Reflectors
	None	Beacon	Install Beacon
	Windsock	Windsock	None

Bluff — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	None	Phone	Provide Public Phone
Restrooms	None	Restrooms	Provide Restrooms
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Pave Parking Area (4 Spaces)
Fencing	Perimeter Fencing	Perimeter Fencing	Install Security Gates
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge (500 sq. feet)

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat and Paint	$885,208	$177,041	$177,041	$531,125
Pave Parking Area (4 Spaces)	$5,000	$0	$5,000	$0
Provide Pilots' Lounge (500 sq. feet)	$78,125	$0	$78,125	$0
Install Beacon	$12,500	$0	$0	Varies*
Install Low Intensity Runway Lighting or Reflectors	$181,250	$0	$0	$181,250
Install Security Gates	Varies*	$0	$0	Varies*
Subtotal Costs	**$1,162,083**	**$177,041**	**$260,166**	**$712,375**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Duchesne Municipal — UCASP Role: Local

Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	8
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	2,825
2006 GA Itinerant Operations	616
2006 Total IFR Arrivals	12
2006 IFR Arrivals from Outside Utah	8
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	A-I	None
Primary Runway Length	5,800‘	Maintain Existing	None
Primary Runway Width	60‘	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds and/or Connectors	None
Lighting	MIRL	LIRL-Low Intensity Runway Lighting or Reflectors	None
	Beacon	Beacon	None
	Windsock	Windsock	None

Duchesne Municipal — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Auto Parking	8 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	Install Security Gates
Terminal/Pilots' Lounge	Terminal	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Overlay and Reconstruct Runway	$3,257,793	$1,954,675	$488,669	$814,449
Construct Apron and Relocate Access Road; Expand Apron	$394,736	$394,736	$0	$0
Install Security Gates	Varies*	$0	Varies*	$0
Subtotal Costs	**$3,652,529**	**$2,349,413**	**$488,669**	**$814,449**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Dutch John — UCASP Role: Local

Primary Generators of Demand/Outside Influences:
Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	0
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	261
2006 GA Itinerant Operations	196
2006 Total IFR Arrivals	12
2006 IFR Arrivals from Outside Utah	12
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	A-I	None
Primary Runway Length	6,600‘	Maintain Existing	None
Primary Runway Width	60‘	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds and/or Connectors	None
Lighting	None	LIRL-Low Intensity Runway Lighting or Reflectors	Install LIRL or Reflectors
	None	Beacon	Install Beacon
	Windsock	Windsock	None

Dutch John — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	None	Phone	Provide Public Phone
Restrooms	None	Restrooms	Provide Restrooms
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Partial	Perimeter Fencing	Upgrade Wildlife Fencing
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge (500 sq. feet)

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Runway Rehabilitation	$2,262,948	$1,584,064	$226,295	$452,590
Install LIRL or Reflectors	$412,500	$0	$0	$412,500
Install Beacon	$12,500	$0	$0	$12,500
Provide Pilots' Lounge (500 sq. feet)	$78,125	$0	$0	$78,125
Upgrade Wildlife Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$2,766,073**	**$1,584,064**	**$226,295**	**$955,715**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Bullfrog Basin (Glen Canyon National Rec. Area) — UCASP Role: Local

Primary Generators of Demand/Outside Influences:
Tourism

Issues/Notes:
Airport is frequently used by larger aircraft than it was designed to serve.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	0
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	449
2006 GA Itinerant Operations	122
2006 Total IFR Arrivals	23
2006 IFR Arrivals from Outside Utah	19
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	A-I	A-I	None
Primary Runway Length	3500‘	Maintain Existing	None
Primary Runway Width	40‘	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds and/or Connectors	None
Lighting	Non-Standard LIRL	LIRL-Low Intensity Runway Lighting or Reflectors	Install LIRL or Reflectors
	None	Beacon	Install Beacon
	Windsock	Windsock	None

Bullfrog Basin (Glen Canyon National Rec. Area) — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	None	Phone	Provide Public Phone
Restrooms	Restrooms	Restrooms	None
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	Install Security Gates
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge (500 sq. feet)

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$1,253,741	$250,749	$250,749	$752,245
Install LIRL or Reflectors	$218,750	$0	$0	$218,750
Install Beacon	$12,500	$0	$0	$12,500
Provide Pilots' Lounge (500 sq. feet)	$78,125	$0	$0	$78,125
Subtotal Costs	**$1,563,116**	**$250,749**	**$250,749**	**$1,061,620**

Halls Crossing — UCASP Role: Local

Primary Generators of Demand/Outside Influences:
Tourism

Issues/Notes:
Further development of this facility is prohibited until environmental issues have been resolved.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	0
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,706
2006 GA Itinerant Operations	1,402
2006 Total IFR Arrivals	35
2006 IFR Arrivals from Outside Utah	27
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	A-I	None
Primary Runway Length	5,700‘	Maintain Existing	None
Primary Runway Width	60‘	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Full Parallel	Turnarounds and/or Connectors	None
Lighting	MIRL	LIRL-Low Intensity Runway Lighting or Reflectors	None
	Beacon	Beacon	None
	Windsock	Windsock	None

Halls Crossing — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Auto Parking	30 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Partial	Perimeter Fencing	Install Full Perimeter Fencing
Terminal/Pilots' Lounge	Terminal	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation	$1,604,200	$320,840	$320,840	$962,520
EA for Runway and Taxiway widening	$1,973,684	$1,973,684	$0	$0
Construct Taxilanes	$394,736	$394,736	$0	$0
Install Full Perimeter Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$3,972,621**	**$2,689,261**	**$320,840**	**$962,520**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Hanksville — UCASP Role: Local

Primary Generators of Demand/Outside Influences:
n/a

Issues/Notes:
State owned and operated airport.

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	3
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,170
2006 GA Itinerant Operations	358
2006 Total IFR Arrivals	5
2006 IFR Arrivals from Outside Utah	2
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	A-I	None
Primary Runway Length	5,675‘	Maintain Existing	None
Primary Runway Width	75‘	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds and/or Connectors	None
Lighting	Non-Standard - LIRL	LIRL-Low Intensity Runway Lighting or Reflectors	None
	Beacon	Beacon	None
	Windsock	Windsock	None

Hanksville — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	Phone	Phone	None
Restrooms	Restrooms	Restrooms	None
Auto Parking	25 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Perimeter Fencing	Perimeter Fencing	None
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation; Reconstruct Runway	$3,262,796	$326,280	$2,283,958	$652,559
Install AWOS	$163,794	$163,794	$0	$0
Provide Pilots' Lounge (standard 500 square feet)	$78,125	$0	$0	$78,125
Subtotal Costs	**$3,504,715**	**$490,073**	**$2,283,958**	**$730,684**

Huntington Municipal — UCASP Role: Local

Primary Generators of Demand/Outside Influences:
n/a

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	4
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,572
2006 GA Itinerant Operations	452
2006 Total IFR Arrivals	3
2006 IFR Arrivals from Outside Utah	0
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	A-I	A-I	None
Primary Runway Length	4,048'	Maintain Existing	None
Primary Runway Width	60'	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Turnarounds & Connector	Turnarounds and/or Connectors	None
Lighting	MIRL	LIRL-Low Intensity Runway Lighting or Reflectors	None
	Beacon	Beacon	None
	Windsock	Windsock	None

Huntington Municipal — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	None	Phone	Provide Public Phone
Restrooms	Restrooms	Restrooms	None
Auto Parking	12 Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	Partial	Perimeter Fencing	Upgrade Wildlife Fencing
Terminal/Pilots' Lounge	Pilots' Lounge	Pilots' Lounge	None

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat & Paint All Asphalt Surfaces	$1,327,563	$265,513	$265,513	$796,538
Upgrade Wildlife Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$1,327,563**	**$265,513**	**$265,513**	**$796,538**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Junction

UCASP Role: Local

Primary Generators of Demand/Outside Influences:
n/a

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	0
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	121
2006 GA Itinerant Operations	102
2006 Total IFR Arrivals	2
2006 IFR Arrivals from Outside Utah	1
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	A-I	A-I	None
Primary Runway Length	4,505‘	Maintain Existing	None
Primary Runway Width	60‘	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds and/or Connectors	None
Lighting	None	LIRL-Low Intensity Runway Lighting or Reflectors	Install LIRL or Reflectors
	None	Beacon	Install Beacon
	Windsock	Windsock	None

Junction — UCASP Role: Local

Landside Facilities

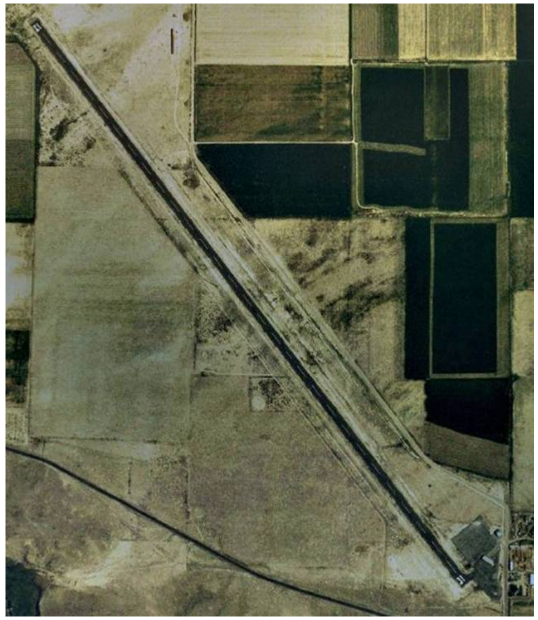
Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	None	Phone	Provide Public Phone
Restrooms	None	Restrooms	Provide Restrooms
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	None
Fencing	None	Perimeter Fencing	Install Full Perimeter Fencing
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge (500 sq. feet)

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Preservation	$1,664,540	$332,908	$332,908	$998,724
Obstruction Removal	$125,000	$0	$125,000	$0
Install Full Perimeter Fencing	Varies*	$0	Varies*	$0
Install LIRL or Reflectors	$281,563	$0	$0	$281,563
Install Beacon	$12,500	$0	$0	$12,500
Provide Pilots' Lounge (500 sq. feet)	$78,125	$0	$0	$78,125
Subtotal Costs	**$2,161,728**	**$332,908**	**$457,908**	**$1,370,911**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Wayne Wonderland, Loa — UCASP Role: Local



Primary Generators of Demand/Outside Influences:
Population Growth, Employment Growth, Tourism, Retirement\Second Home, Development

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	4
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,567
2006 GA Itinerant Operations	303
2006 Total IFR Arrivals	34
2006 IFR Arrivals from Outside Utah	14
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-II	A-I	None
Primary Runway Length	5,900‘	Maintain Existing	None
Primary Runway Width	75‘	Maintain Existing	None
Primary Runway Strength	16,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds and/or Connectors	None
Lighting	MIRL	LIRL-Low Intensity Runway Lighting or Reflectors	None
	Beacon	Beacon	None
	Windsock	Windsock	None

Wayne Wonderland, Loa — UCASP Role: Local

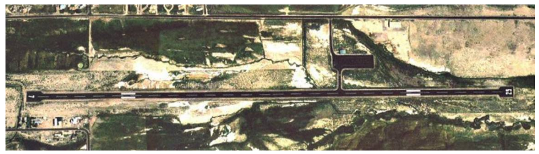
Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	Phone	Phone	None
Restrooms	None	Restrooms	Provide Restrooms
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Pave Parking Area (5 Spaces)
Fencing	Partial	Perimeter Fencing	Install Security Gates
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Pavement Maintenance	$3,165,629	$949,689	$633,126	$1,582,815
Install Security Gates; Install Perimeter Fence	$197,369	$197,369	$0	$0
Construct Apron	$789,474	$0	$789,474	$0
Pave Parking Area (5 Spaces)	$6,250	$0	$6,250	$0
Provide Pilots' Lounge (500 square feet)	$78,125	$0	$78,125	$0
Acquire Land for Approaches South, Apron/lighting Rehabilitation, Remove Obstructions	$986,843	$0	$0	$986,843
Subtotal Costs	**$5,223,688**	**$1,147,058**	**$1,506,975**	**$2,569,656**

Manila — UCASP Role: Local



Primary Generators of Demand/Outside Influences:
Tourism

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	0
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	260
2006 GA Itinerant Operations	225
2006 Total IFR Arrivals	1
2006 IFR Arrivals from Outside Utah	0
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	A-I	None
Primary Runway Length	5,300‘	Maintain Existing	None
Primary Runway Width	60‘	Maintain Existing	None
Primary Runway Strength	26,000 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Connector	Turnarounds and/or Connectors	None
Lighting	MIRL	LIRL-Low Intensity Runway Lighting or Reflectors	None
	Beacon	Beacon	None
	Windsock	Windsock	None

Manila — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	None	Phone	Provide Phone
Restrooms	None	Restrooms	Provide Restrooms
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Construct Auto Parking (5 Spaces)
Fencing	Perimeter Fencing	Perimeter Fencing	Upgrade Wildlife Fencing
Terminal/Pilots' Lounge	None	Pilots' Lounge	Construct Pilots' Lounge (500 sq. feet)

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat & Paint All Asphalt Surfaces (Pavement Preservation)	$1,414,469	$282,894	$282,894	$848,681
Lighting Rehabilitation	$37,500	$37,500	$0	$0
Upgrade Wildlife Fencing	Varies*	$0	Varies*	$0
Construct Pilots' Lounge (500 sq. feet)	$78,125	$0	$0	$78,125
Construct Auto Parking (5 Spaces)	$6,250	$0	$0	$6,250
Subtotal Costs	**$1,536,344**	**$320,394**	**$282,894**	**$933,056**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.

Mount Pleasant UCASP Role: Local

Primary Generators of Demand/Outside Influences:
Tourism, Retirement\Second Home, Development

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	5
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	2,275
2006 GA Itinerant Operations	442
2006 Total IFR Arrivals	1
2006 IFR Arrivals from Outside Utah	1
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	A-I	None
Primary Runway Length	4,260‘	Maintain Existing	None
Primary Runway Width	60‘	Maintain Existing	None
Primary Runway Strength	12,500 lbs. SWG	12,500 lbs. SWG	None
Taxiway Type	Turnarounds & Connector	Turnarounds and/or Connectors	None
Lighting	MIRL	LIRL-Low Intensity Runway Lighting or Reflectors	None
	Beacon	Beacon	None
	Windsock	Windsock	None

Mount Pleasant — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	Phone	Phone	None
Restrooms	None	Restrooms	Provide Restrooms
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Pave Parking Area (5 Spaces)
Fencing	Perimeter Fencing	Perimeter Fencing	None
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge (500 sq. feet)

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Repair Runway Ends; Crack Seal, Seal Coat & Paint All Asphalt Surfaces.	$1,683,101	$420,775	$336,620	$925,706
Provide Pilots' Lounge (500 sq. feet)	$78,125	$0	$78,125	$0
Pave Parking Area (5 Spaces)	$6,250	$0	$6,250	$0
Subtotal Costs	**$1,767,476**	**$420,775**	**$420,995**	**$925,706**

Salina – Gunnison — UCASP Role: Local

Primary Generators of Demand/Outside Influences:
n/a

Issues/Notes:
n/a

2006 Aviation Activity

Measure	Total
2006 Based Aircraft	5
2006 Based Multi-Engine Aircraft	0
2006 Based Jet Aircraft	0
2006 Total Operations	1,674
2006 GA Itinerant Operations	418
2006 Total IFR Arrivals	3
2006 IFR Arrivals from Outside Utah	0
2006 Passenger Enplanements	0

Airside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Airport Reference Code	B-I	A-I	None
Primary Runway Length	3,815‘	Maintain Existing	None
Primary Runway Width	60‘	Maintain Existing	None
Primary Runway Strength	6,000 lbs. SWG	12,500 lbs. SWG	Increase Pavement Strength to 12,500 lbs.
Taxiway Type	Turnarounds & Connector	Turnarounds and/or Connectors	None
Lighting	MIRL	LIRL-Low Intensity Runway Lighting or Reflectors	None
	Beacon	Beacon	None
	Windsock	Windsock	None

Salina – Gunnison — UCASP Role: Local

Landside Facilities

Facility	Existing	Minimum UCASP Objective	Recommendation
Ground Communications	None	Phone	Provide Public Phone
Restrooms	Restrooms	Restrooms	None
Auto Parking	0 Paved Spaces	Auto Parking – Equal to Number of Based Aircraft	Pave Parking Area (5 Spaces)
Fencing	None	Perimeter Fencing	Install Full Perimeter Fencing
Terminal/Pilots' Lounge	None	Pilots' Lounge	Provide Pilots' Lounge (500 sq. feet)

Recommended Development Costs

Project Description/Details	Total Estimated Cost	Costs During Future Time Periods		
		1-5 Year	6-10 Year	11-20 Year
Crack Seal, Seal Coat and Paint all Pavements	$1,456,966	$145,696	$874,180	$437,090
Provide Pilots' Lounge (500 sq. feet)	$78,125	$0	$78,125	$0
Pave Parking Area (5 Spaces)	$6,250	$0	$0	$6,250
Install Full Perimeter Fencing	Varies*	$0	$0	Varies*
Subtotal Costs	**$1,541,341**	**$145,696**	**$952,305**	**$443,340**

*Fencing construction and/or upgrade costs could not be determined without on-site inspection and therefore have not been included in the totals above.